

Houston Public Library  
HOUSTON TEXAS  
October, 1955

# SOAP *and Chemical Specialties*

## In this issue...

ass aerosols efficient  
antiseptic dispensers

tergent uses expanding  
petroleum processing

offer insect repellents  
by addition of stabilizers

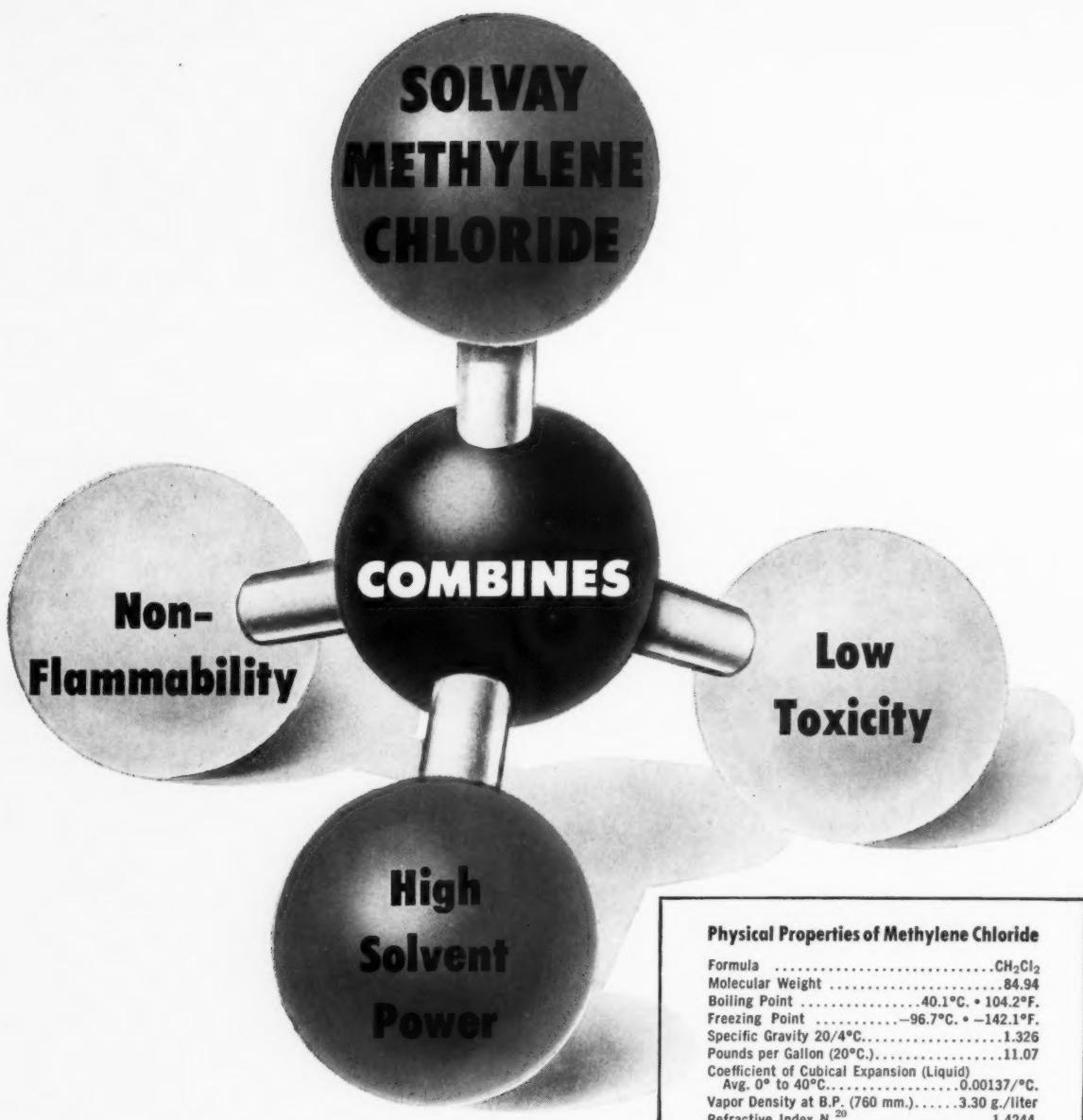
adioisotopes to measure  
bearing qualities of wax

er photo... New label for an  
fabrite as the girl on "Old  
utch Cleanser" of Patex Corp.,  
gate, Calif., shows her face  
in first time. Dyeing agents and  
cinate bleach have been added to  
formula. New label, right, is  
lighter yellow. Product also comes  
new 12 ounce size containers.

(10)

(New)





Combining highly efficient solvent power with the safety of non-flammability and low toxicity, Solvay Methylene Chloride has found many diverse industrial uses such as: the active ingredient in paint remover formulas; an efficient extractant for heat sensitive compounds or organic compounds of a non-polar nature; a solvent and diluent in aerosol packaging; and as a solvent in the manufacture of photographic films and other forms of cellulose acetate.

*The coupon will bring you further information or a sample—without cost or obligation.*



Soda Ash • Snowflake® Crystals • Potassium Carbonate  
Calcium Chloride • Ammonium Bicarbonate • Sodium Bicarbonate  
Cleaning Compounds • Caustic Potash • Sodium Nitrite • Chlorine  
Caustic Soda • Ammonium Chloride • Para-dichlorobenzene  
Methyl Chloride • Ortho-dichlorobenzene • Monochlorobenzene  
Carbon Tetrachloride • Chloroform • Methylene Chloride

#### Physical Properties of Methylene Chloride

Formula	.....	CH <sub>2</sub> Cl <sub>2</sub>
Molecular Weight	.....	84.94
Boiling Point	.....	40.1°C. • 104.2°F.
Freezing Point	.....	-96.7°C. • -142.1°F.
Specific Gravity 20/4°C.	.....	1.326
Pounds per Gallon (20°C.)	.....	11.07
Coefficient of Cubical Expansion (Liquid)	.....	0.00137/°C.
Avg. 0° to 40°C.	.....	0.00137/°C.
Vapor Density at B.P. (760 mm.)	.....	3.30 g./liter
Refractive Index N <sub>D</sub> <sup>20</sup>	.....	1.4244
Viscosity Liquid (20°C.)	.....	0.430 centipoise
Surface Tension (in air) 20°C.	.....	28.12 dynes/cm.
Specific Heat of Liquid (20°C.)	.....	.0.284 cal./gm./°C.
Latent Heat of Vaporization (at B. P.)	.....	78.7 cal./gm.
Critical Temperature	.....	245.0°C. • 473.0°F.
Critical Pressure	.....	60.9 atm.
Flash Point	.....	None

#### SOLVAY PROCESS DIVISION

ALLIED CHEMICAL & DYE CORPORATION  
61 Broadway, New York 6, N. Y.



Gentlemen:  
Please send me—AT NO COST OR OBLIGATION:

- A working sample of Solvay Methylene Chloride.
- Your new book on Methylene Chloride and other Solvay Chloromethanes.
- Additional information—see attached letter.

Name \_\_\_\_\_

Company \_\_\_\_\_

Title \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

DM-10

A GREAT NEW PRODUCT! A TERRIFIC PACKAGING INNOVATION!  
SAFE FOR BOWLS . . . AND . . . PORCELAIN ENAMEL

**Sensational** 

**Liquid Bowl and Porcelain  
CLEANER • DISINFECTANT**

Clean . . . Disinfect . . . Sanitize . . . Deodorize

ALL WASHROOM FIXTURES, IN ONE  
OPERATION WITH ONE PRODUCT!

**DIP!** Dip mop into handy, wide-mouth OUT jug. Convenient handle makes it easy to carry. No uninhibited acids to ruin clothing, injure hands. No poison label required. Use on porcelain enamel as well as vitreous ware.

**DAB!** Dab mop on surface to be cleaned and mop thoroughly. After cleaning toilet bowl, flush rings, urinal walls, other hard-to-see areas, check results with OUT "Mirror Card."

**DEAD!** OUT kills dangerous disease carrying bacteria. OUT combines bacteria-killing action with penetrating cleaning power, safely working its way into traps and drainage systems. Heavier-than-water OUT settles in these unreachable spots, kills odor-producing algae.

**OUT!** Odors go OUT! Dirt, filth go OUT! Rust, iron scale, hard water stains clear OUT . . . fast!

Many bowl cleaners have some of these features . . . but OUT has them all!

**Distributors Like OUT Because:**

No poison label is needed! OUT comes in a streamlined package—no freight to pay on wooden crates, no bulky boxes to store. OUT is packed in easy-to-stack cartons. Distributor's name and address as source of supply appears on every jug of OUT!



\*Reg. applied for.  
Originality, Research and Consistent Quality for Over a Quarter Century

**Users Like OUT Because:**

One product cleans and disinfects *all* washroom fixtures! Handy, safe-to-use container . . . no rubber gloves or special handling needed! Each carton of OUT contains bowl mops and mirror cards.



For additional information and OUT® prices, write or wire:

**Associated JUST Distributors, Inc.**  
c/o **FULD BROS., Inc.**

702 S. Wolfe St., Baltimore 31, Md.  
West Coast Plant: Los Angeles 13, Cal.

© 1955, A.J.D., Inc.



OUT is a beautiful Medical Blue color and is labeled, directly on the bottle, in rich Sanitary White . . . a color and container combination that cuts sales resistance, instills confidence.



Tested and approved by  
**YORK RESEARCH CORP.**  
for the Hotel Industry

Action of OUT has been  
verified by DILUTION  
"CONFIRMATION TEST"  
using Salmonella  
Cholerasuis.

# NEW SUPER CAND-DOX®

## FEATURES

- ★ Superior slip resistance
- ★ High resistance to dirt retention and discoloring traffic marks
- ★ High gloss and beauty
- ★ Water resistance
- ★ Hard (not tacky)
- ★ Proper degree of removability
- ★ Listed UL.

The laboratory research effort of our organization is very important in our development of new useful products. If a definite improvement can be accomplished by the use of new additives, we endeavor to formulate such ingredients so as to produce final products which conform to our very high standards of product function. Only FIELD TESTING proves the actual value of a floor treatment. CAND-DOX floor treatments have been thoroughly field tested and are being sold in quantity by most of our distributors with success. All of our products are available for private brand resale and are sold only through distributors except for experimental accounts in Chicago essential to research.

- SUPER CAND-DOX®
- CAND-DOX® CS
- CAND-DOX® BB

THE MOST COMPLETE LINE OF WATER EMULSION WAXES OF THE HIGHEST QUALITY AVAILABLE ANYWHERE

# SUPER CAND-DOX®

with LUDOX\* added

SUPER CAND-DOX IS REMARKABLY MORE ANTI-SLIP THAN ANY OTHER WATER EMULSION FLOOR WAX in the class of products designed to give beautiful appearance and to be highly resistant to dirt retention (durability)

AGAIN, our research has developed a floor wax that has an outstanding improvement that can be demonstrated to your complete satisfaction! The increased anti-slip factor in our new SUPER CAND-DOX together with our other well-known extremely high qualities of floor wax performance makes it the WAX NEWS OF THE YEAR.

SUPER CAND-DOX is not meant to replace our other high quality products...it is intended to be a valuable addition to our line for applications that require better anti-slip performance than is obtainable anywhere else without loss of any other important feature of a water emulsion self-polishing floor wax.

For more details, samples and prices, write, wire or phone us. We urge you to make a test application under your own conditions for the most convincing proof of all.

\*LUDOX Colloidal Silica, Trademark of E. I. DuPont de Nemours & Co., (Inc.) Reg. U. S. Pat. Off.

Wax Specialists for over 60 years  
**Candy & Company, Inc.**  
2515 W. 35th ST., CHICAGO

- Candy's SUPREME (Standard)
- BRIGHT BEAUTY (Standard)
- Candy's SUPREME Special WR.

# SOAP

## *and Chemical Specialties*

## CONTENTS

In Brief, as the Editor Sees It .....	35
As the Reader Sees It .....	39
Detergents for Petroleum Displacement .....	41
By R. T. Johansen, H. N. Dunning and Jeanne W. Beaty	
Floating Soaps (Part II) .....	45
By F. V. Wells	
Synthetic Detergents and Emulsifiers Up-to-Date (Part IV) .....	48
By John W. McCutcheon	
Improving Soap Flakes .....	73
Simple Laboratory Foam Generator .....	77
By Philip F. Kurz	
Glass Aerosols for Antiseptics .....	163
By Francis A. Mina, Ph.D.	
Lien Chemical Co. Is 25 Years Old .....	166
By E. G. Thomassen, Ph.D.	
Radioactive Method to Determine Wearing Qualities of Waxes .....	169
By Daniel T. Haworth, John R. Koch and John G. Surak	
Non-Flammable Paint Strippers (Part II) .....	174
By Bernard Berkeley, Daniel Schoenholz and John P. Sheehy	
Insect Repellents .....	181
By D. E. Howell and Lyle D. Goodhue, Ph.D.	
Production Section .....	73
Production Clinic .....	83
New Patents .....	87
Products and Processes .....	89
Soap Plant Observer .....	91
Packaging Notes .....	101
New Products Pictures .....	104
Bids and Awards .....	111
New Trade Marks .....	113
Chemical Specialties Section .....	131
Classified Advertising .....	215
Coming Meetings .....	222
Advertisers' Index .....	223
Tale Ends .....	224

Editor  
FRANK J. REILLY

Associate Editor  
CHARLOTTE HAAS

Advertising Manager  
THOMAS MORGAN

Published monthly by  
MAC NAIR-DORLAND COMPANY

IRA P. MAC NAIR  
President

GRANT A. DORLAND  
Vice President and Treasurer

Publication Office  
254 W. 31st St., New York 1, N. Y.  
Telephone: BRyant 9-4456

Chicago Office  
333 N. Michigan Ave.

MEMBER



since 1934

Copyright, 1955 by Mac Nair-Dorland Co.  
Reproduction in whole or part of any article  
appearing in this issue is forbidden without  
written consent.

Subscription rates: U. S., \$4.00 per year;  
Canadian, \$5.00; Foreign, \$6.00. Copy  
closing dates—22nd of month preceding  
month of issue for reading matter and 10th  
of month preceding month of issue for dis-  
play advertising. Reentered as second-class  
matter at the Post Office, New York, N. Y.,  
under the Act of March 3, 1879.



**NORDA does  
what Nature does...**

**NORDA**

**makes good scents**

Hyacinth has always been such a happy fragrance. It is almost as if Nature smiled every time she created it.

The hyacinth that Norda makes has the same glad characteristics. It has the full-bodied sweetness — its bouquet has the same subtle richness.

All Norda scents, and odors, and fragrances are made with long-practised skills. You will find you like what they do for you in all your perfumed products, your deodorants, your modern aerosol mists.

Come to Norda for competent help. Send for free Norda samples today.

*Always remember —  
never forget . . .  
Norda Makes Good Scents*



**Norda Essential Oil and Chemical Company, Inc.**  
601 West 26th Street, New York 1, N. Y.

CHICAGO • LOS ANGELES • SAN FRANCISCO • MONTREAL • TORONTO • HAVANA • LONDON • PARIS • GRASSE • MEXICO CITY



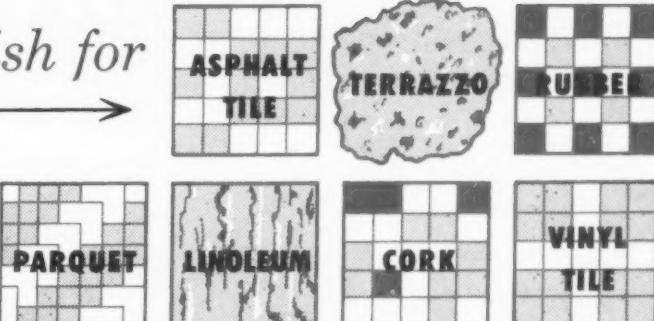
## HYSAFE new Flexigloss floor finish

*the perfect finish for*

Jobbers are sending us repeat orders for HYSAFE at a rate that tops anything in our 29 year history. This repeat sale jamboree is based on HYSAFE's dazzling gloss—unprecedented for a finish with such sure footed traction—on HYSAFE's 2½ times longer floor life . . PLUS an ease of application, maintenance and removal never before equalled.

The best proof of all this is what your customers think. So order eleven 5-gal. trial cans at the drum price and get aboard the HYSAFE band wagon bonanza. Unconditional money back guarantee.

**WRITE, WIRE OR PHONE COLLECT**



### NO WAX IN HYSAFE

*Outlasts Wax 2½ to One*

and HYSAFE's clear bright resilient finish can't water-spot, oxidize or discolor.

*Hysan* PRODUCTS COMPANY • 932 West 38th Place • Chicago 9, Illinois

SURFACE ACTIVE AGENTS • ETHANOLAMINE EMULSIONS • TEXTILES • COSME  
MORTAR AND CONCRETE • LEATHER CLEANING • RUBBER • CORROSION INHIBITORS  
ETHANOLAMINE EMULSIONS • TEXTILES • COSMETICS • INDUSTRIAL METALWORKING  
LEATHER CLEANING • RUBBER • CORROSION INHIBITORS • DEMULSIFYING AGENTS  
**MATHIESON**  
ETHANOLAMINE EMULSIONS • TEXTILES • COSMETICS • INDUSTRIAL METALWORKING  
LEATHER CLEANING • RUBBER • CORROSION INHIBITORS • DEMULSIFYING AGENTS  
SURFACE ACTIVE AGENTS • ETHANOLAMINE EMULSIONS • TEXTILES • COSMETICS  
MORTAR AND CONCRETE • LEATHER CLEANING • RUBBER • CORROSION INHIBITORS  
ETHANOLAMINE EMULSIONS • TEXTILES • COSMETICS • INDUSTRIAL METALWORKING  
LEATHER CLEANING • RUBBER • CORROSION INHIBITORS • DEMULSIFYING AGENTS  
**MONO**  
ETHANOLAMINE EMULSIONS • TEXTILES • COSMETICS • INDUSTRIAL METALWORKING  
LEATHER CLEANING • RUBBER • CORROSION INHIBITORS • DEMULSIFYING AGENTS  
SURFACE ACTIVE AGENTS • ETHANOLAMINE EMULSIONS • TEXTILES • COSMETICS  
MORTAR AND CONCRETE • LEATHER CLEANING • RUBBER • CORROSION INHIBITORS  
ETHANOLAMINE EMULSIONS • TEXTILES • COSMETICS • INDUSTRIAL METALWORKING  
LEATHER CLEANING • RUBBER • CORROSION INHIBITORS • DEMULSIFYING AGENTS  
SURFACE ACTIVE AGENTS • ETHANOLAMINE EMULSIONS • TEXTILES • COSMETICS  
MORTAR AND CONCRETE • LEATHER CLEANING • RUBBER • CORROSION INHIBITORS  
ETHANOLAMINE EMULSIONS • TEXTILES • COSMETICS • INDUSTRIAL METALWORKING  
LEATHER CLEANING • RUBBER • CORROSION INHIBITORS • DEMULSIFYING AGENTS  
SURFACE ACTIVE AGENTS • ETHANOLAMINE EMULSIONS • TEXTILES • COSMETICS  
MORTAR AND CONCRETE • LEATHER CLEANING • RUBBER • CORROSION INHIBITORS  
ETHANOLAMINE EMULSIONS • TEXTILES • COSMETICS • INDUSTRIAL METALWORKING  
LEATHER CLEANING • RUBBER • CORROSION INHIBITORS • DEMULSIFYING AGENTS  
SURFACE ACTIVE AGENTS • ETHANOLAMINE EMULSIONS • TEXTILES • COSMETICS  
MORTAR AND CONCRETE • LEATHER CLEANING • RUBBER • CORROSION INHIBITORS  
ETHANOLAMINE EMULSIONS • TEXTILES • COSMETICS • INDUSTRIAL METALWORKING  
LEATHER CLEANING • RUBBER • CORROSION INHIBITORS • DEMULSIFYING AGENTS  
SURFACE ACTIVE AGENTS • ETHANOLAMINE EMULSIONS • TEXTILES • COSMETICS  
MORTAR AND CONCRETE • LEATHER CLEANING • RUBBER • CORROSION INHIBITORS  
ETHANOLAMINE EMULSIONS • TEXTILES • COSMETICS • INDUSTRIAL METALWORKING  
LEATHER CLEANING • RUBBER • CORROSION INHIBITORS • DEMULSIFYING AGENTS  
TILES • COSMETICS • INDUSTRIAL METALWORKING  
CORROSION INHIBITORS • DEMULSIFYING AGENTS



ORGANIC CHEMICALS • Ethylene Oxide • Ethylene Glycols • Polyethylene Glycols • Glycol Ether Solvents • Ethylene Dichloride • Dichloroethylene  
Formaldehyde • Methanol • Sodium Methylate • Hexamine • Ethylene Diamine • Polyamines • Ethanolamines • Trichlorophenol • Trichlorobenzene

# AMMINES

Mathieson ethanamines are produced from high purity ethylene oxide and ammonia of our own manufacture. Rigid quality controls from basic raw materials to finished product assure uniform high standards.

Tank car, tank truck, and drum shipments can be made from the Doe Run Plant at Brandenburg, Kentucky. For technical information and samples, call your Olin Mathieson representative or write today.

3212

**MATHIESON CHEMICALS**  
OLIN MATHIESON CHEMICAL CORPORATION  
INDUSTRIAL CHEMICALS DIVISION • BALTIMORE 3, MD.

INORGANIC CHEMICALS • Ammonia • Bicarbonate of Soda • Carbon Dioxide • Caustic Soda • Chlorine • Hydrazine and Derivatives • Hypochlorite Products • Nitrate of Soda • Nitric Acid • Soda Ash • Sodium Chlorite Products • Sulphate of Alumina • Sulphur (Processed) • Sulphuric Acid

# *Birthplace of better petrochemicals*



An outstanding source of petrochemicals, Conoco once again demonstrates its progressive thinking and ability to serve you.

Rapidly expanding petrochemical facilities, exemplified in a new and unique research building, are making service to Conoco customers even more comprehensive and efficient than in the past.

Conoco's new Development and Research Pilot Plant in Ponca City, Oklahoma, is one of the most unusual structures of its kind. Converted from an 80,000-barrel oil-storage tank,

it is cylindrical in shape with a center well extending from bottom to top.

A growing staff of trained technical specialists will occupy the air-conditioned offices and laboratories which are situated around the well. Suspended from the "cap" of the building is a travel hoist which is used for handling heavy equipment.

In this "house of petrochemical progress," new and better Conoco products are being developed . . . new ways to help you with your particular problems.

*Unique new research center...*

*another good reason  
for doing business with*

**CONOCO**

*Outstanding Conoco Petrochemicals*

**NEOLENE 400**—an intermediate for synthetic detergents . . . specified by the world's foremost synthetic detergent processors. Notable for its characteristics of stability, uniformity, and purity, NEOLENE 400 yields a sulfonate with superior qualities of color and odor.

**WATER-SOLUBLE SULFONATES**—produced from NEOLENE 400. Available as sulfonate slurry, sulfonic acid, or in spray-dried and drum-dried forms.

**OIL-SOLUBLE SULFONATES**—manufactured by sulfonation of synthetically produced hydrocarbon under closely controlled conditions.

**DODECYLBENZYL CHLORIDE**—a versatile intermediate. By virtue of the reactive chlorine in the molecule, this material readily reacts with many organic compounds to form products such as nonionics and quaternary salts.

**CONOCO H-340**, a secondary plasticizer for vinyls—outstanding light stability . . . improved low-temperature flexibility . . . viscosity depressant and stabilizer in plastisols.

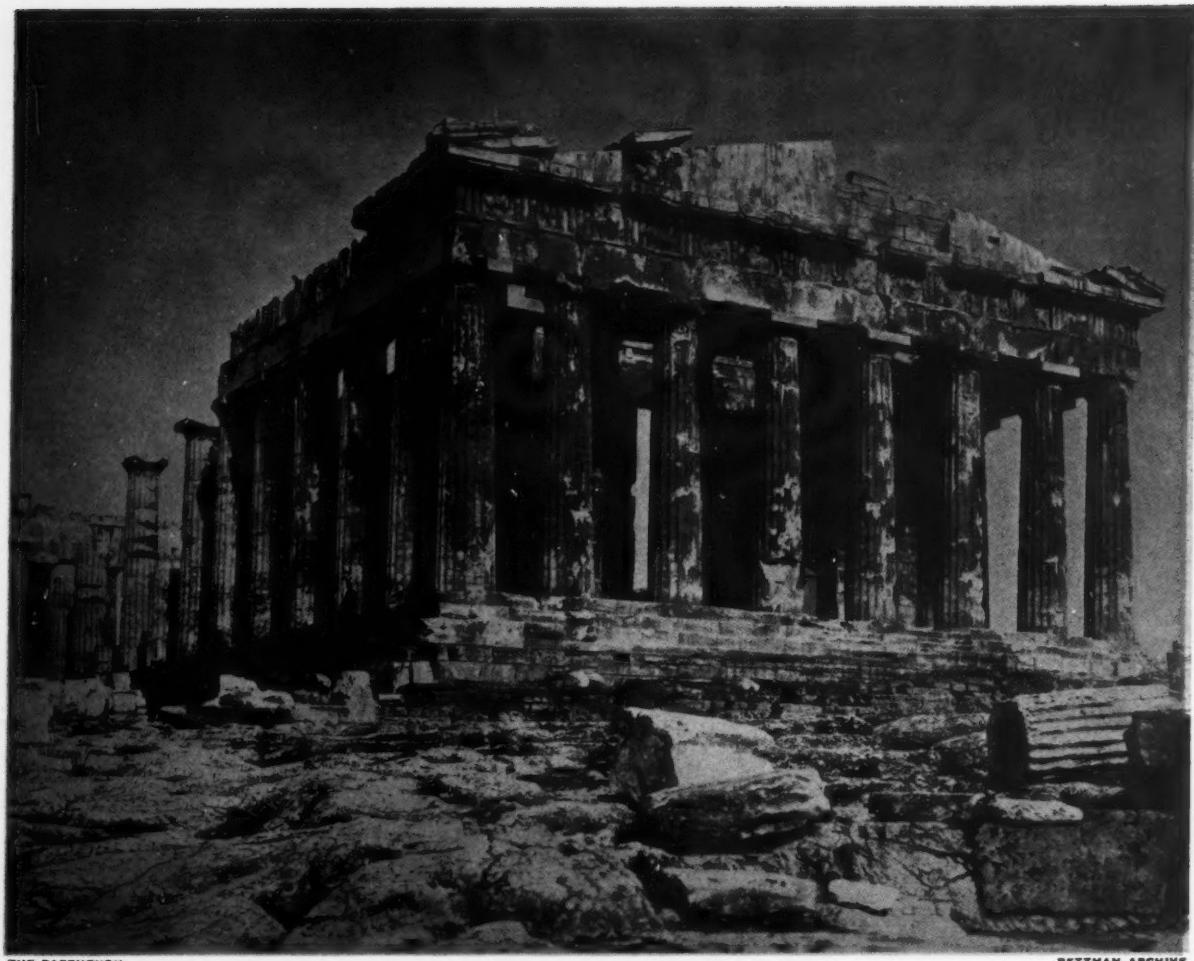


*Petrochemical know-how from the ground Up!*

**Continental Oil Company**

Petrochemical Department, Division A-10  
630 Fifth Avenue, New York 20, N. Y.  
1353 No. North Branch Street, Chicago, Ill.

© 1955, Continental Oil Company



THE PARTHENON

BETTMAN ARCHIVE

## *Quality Makes the Difference*

Quality makes the difference — that's the reason for the industrial switch from oil to fatty acids:

SOYA BEAN FATTY ACIDS — for simplicity of manufacture

CORN FATTY ACIDS — for better color

TALLOW FATTY ACIDS — to reduce the time of saponification

COCONUT FATTY ACIDS — for increased yields per pound of raw material

COTTONSEED FATTY ACIDS — reduced unsaponifiable content for greater economy

PALM FATTY ACIDS — for higher soap yields, lower costs

RED OILS — lowest titre available

STEARIC ACIDS — for best heat resistance  
A. Gross' FATTY ACIDS for all industry.

For full information, send for our new catalog "Fatty Acids in Modern Industry".

A. GROSS & COMPANY

M A N U F A C T U R E R S S I N C E 1 8 3 7

295 MADISON AVENUE, NEW YORK 17, N. Y. • FACTORY: NEWARK, N. J. • DISTRIBUTORS IN PRINCIPAL CITIES

# CLEAN AS CAN BE...



## WITH TRITON X-100

Dishes, glassware, cutlery, silverware, pots and pans—all of them come from the sink extra clean and sparkling bright when the high foam, high detergency of TRITON X-100 is put to use in liquid household detergents.

**How TRITON X-100 Improves Cleansing.** TRITON X-100 is not only highly effective in removing soil, but also in keeping removed soil from being redeposited. It further increases cleansing efficiency by emulsifying oil and grease. Because it's a non-ionic surfactant, the detergent activity of TRITON X-100 is unaffected by hard water. Versatile TRITON X-100 promotes thorough cleansing of all surfaces—from plastics, rubber, glass, china, and pottery to silver, copper, aluminum, iron, and stainless steel.

Liquid household detergents clean many things around a home. While their principal use is in the kitchen, the housewife may expect her liquid detergent to clean floors, walls, windows, appliances and other surfaces.

In all these applications high detergency ratings and high foaming are important. To give your product these properties include TRITON X-100 in your formulation.

For samples of TRITON X-100, formulation suggestions, or additional data, see your Rohm & Haas representative or write today to the address below.

TRITON is a trademark, Reg. U.S. Pat. Off. and in principal foreign countries.

**ROHM & HAAS COMPANY**  
WASHINGTON SQUARE, PHILADELPHIA 5, PA.  
Representatives in principal foreign countries



**NOW AVAILABLE!**

# soda ash

(58% light)

**BY DOW**

Ready for your needs . . .

A high-quality and uniform *soda ash* . . .

Produced by an exclusive new Dow process at Freeport, Texas.

Include Dow in your planning.

THE DOW CHEMICAL COMPANY, Midland, Michigan

*you can depend on DOW CHEMICALS*





**As beautiful as wrapping  
your floor in cellophane!**

# **LAB-COTE**

**CLEAR, HARD, DURABLE,  
RESILIENT FLOOR DRESSING**

*High Gloss Safety for every Surface!  
It's Buffable! Removable!*

Approved by York Research Corporation for  
acceptance by the American Hotel Association



Here is clear, natural beauty for all floors! LAB-COTE is *not* a wax. It is a transparent, long-wearing, floor dressing . . . that protects as it beautifies. LAB-COTE dresses floors with pure, lasting beauty—like a cellophane wrap!

**KEEPS FLOOR UPKEEP DOWN!**

This Cost Control Chemical\* for beautiful floorkeeping is easy to apply—easy to maintain. Soil stays on top . . . wipes off with a damp mop. Even traffic lanes shine after light buffing. Although rugged and hard, LAB-COTE is easy to remove when desired.

**SAFER TO WALK UPON!**

LAB-COTE gives 40% higher anti-slip value than minimum standards—with beauty, durability . . . easy maintenance.



**Chemical Service of Baltimore, Inc.**  
**HOWARD & WEST STREETS ★ BALTIMORE 30, MARYLAND**



The scent of soap  
can be an impelling spur to sales

Tell your story well through the selection of the proper perfume. For suggestions and recommendations, ask the advice of the van Ameringen-Haebler soap perfumers who are unmatched in skill and experience in this field of scent.

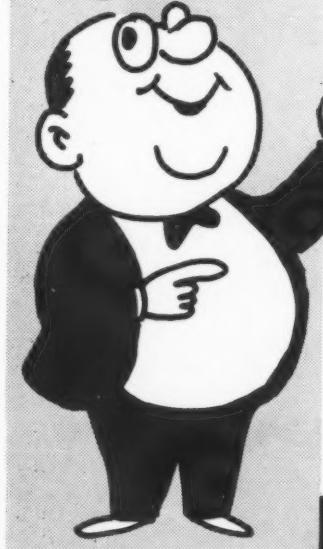
**VAN AMERINGEN-HAEBLER, INC.** 521 WEST 57th STREET, NEW YORK 19, N. Y.

# MAKE YOUR OWN LIQUID CLEANERS FOR LESS THAN 20¢ PER GALLON...



**IT'S EASY...**

- You will receive suggested formulae and complete easy-to-follow instructions for mixing a top-quality cleaner with just the right alkalinity, detergency and viscosity . . . a peak-performance cleaner that will allow you to compete with manufacturers who sell direct.



**IT'S PROFITABLE...**

**MAKE YOUR OWN  
LIQUID CLEANERS**

*with ECCONOL...*

- INCREASE YOUR PROFITS
- INCREASE YOUR MARKET

• WRITE FOR FREE SAMPLE AND FULL PARTICULARS

**ESSENTIAL CHEMICALS COMPANY, MILWAUKEE, WISCONSIN**

## **Alkane**

(Basic material in manufacture  
of surfactants)

**Detergent Slurry**

**Detergent D-40**

**Detergent D-40SF**

# **SURFACTANTS**

**Detergent D-40FG**

**Detergent D-60**

**Wetting Agent S**

**Dispersant NI-W**

**Dispersant NI-O**

BY THE WORLD'S LARGEST PRODUCER OF SYNTHETIC DETERGENT RAW MATERIALS

Have a problem that requires a detergent? A wetting agent? An emulsifier? A foaming agent? Whether you require the basic raw material or a surfactant in intermediate form or a finished product—it will pay you to investigate the complete Oronite line.

Oronite surfactants are priced competitively and have the high quality and uniformity you expect from the world's largest producer of synthetic detergent raw materials.

Why not talk over your needs with an Oronite detergent specialist? Write or phone the Oronite office nearest you.



*New! Alkane Technical Bulletin—available to those interested in processing finished detergents from the basic raw material.*



### **ORONITE CHEMICAL COMPANY**

200 Bush Street, San Francisco 20, California • 714 W. Olympic Blvd., Los Angeles 15, California  
30 Rockefeller Plaza, New York 20, New York • 20 North Wacker Drive, Chicago 6, Illinois  
Mercantile Securities Building, Dallas 1, Texas • Carew Tower, Cincinnati 2, Ohio

3537





# After Closing...

## H. R. Shepherd Resigns

H. R. Shepherd, vice-president and one of the founders of Connecticut Chemical Research Corp., Bridgeport, and its wholly owned subsidiaries, including Bostwick Laboratories, Inc., resigned as an officer and board member of the company, effective Sept. 30. Mr. Shepherd plans to continue in the aerosol industry in which he is a pioneer and will announce his future plans shortly. He is chairman of the Aerosol Division of the Chemical Specialties Manufacturers Association and a member of the board of governors of CSMA, in which he has been active for several years.

A. O. Samuels, president and one of the founders of Connecticut Chemical Research Corp., has assumed direct supervision of the contract packaging division formerly supervised by Mr. Shepherd. Mr. Samuels in recent years has devoted himself to the physical expansion of the Bridgeport plant as well as the establishment of operations in England and Canada. Plans for expansion of the contract packaging division of the company in manpower, sales services and new product development will be announced soon, Mr. Samuels said.

— ★ —

## CSMA to Honor Harris

J. C. Harris of the central research laboratory of Monsanto Chemical Co., St. Louis, in Dayton, O., has been elected to receive the Achievement Award for 1955 of the Chemical Specialties Manufacturers Association. Mr. Harris was unanimously recommended by the Achievement Award Committee of CSMA to receive the honor. The award is based on his outstanding contribution to the evaluation of detergents and for his efforts to persuade the industry to adopt many methods as standard in the evaluation of surface active agents. He

will receive the award during the 42nd annual meeting of CSMA in New York in December.

In addition to serving as chairman of the Scientific Com-



J. C. Harris

mittee of the Soap, Detergents and Sanitary Chemicals Division of the Chemical Specialties Manufacturers Association, he was secretary of Committee D-12 on Soaps and Detergents of the American Society for Testing Materials from 1946 to 1950. Since 1950 he has been chairman of Committee D-12. At the inception of the Advisory Committee on Detergents of the National Security Industrial Association in 1950, Mr. Harris was elected chairman of the administrative committee and in 1952 he was chosen chairman of the Advisory Committee.

Besides his extensive leadership in committees and technical societies concerned with soaps, detergents and other surface active agents, Mr. Harris has published a long list of technical contributions. He is the author of "Detergency Evaluation and Testing," a standard reference work in the field.

— ★ —

## Floor Finishes Survey

Completion of the first annual Product Survey—Waxes and Floor Finishes for the years 1953 and

1954 has been completed and is now being mailed out to the membership, it was announced early in October by the Chemical Specialties Manufacturers Association. In announcing the availability of the survey, A. E. Budner of S. C. Johnson & Sons, Inc., Racine, Wis., chairman of the administrative committee of the Waxes and Floor Finishes Division of CSMA, said it was the hope of the committee to repeat the survey next year. The complete results of the survey will be published in the November issue of *Soap & Chemical Specialties*.

## CSMA Meets Dec. 5-7

A symposium on detergent sanitizers will be one of the program highlights of the 42nd annual meeting of the Chemical Specialties Manufacturers Assn., to be held at the Hotel Roosevelt, New York, Dec. 5-7. The meeting, which formally opens Tuesday, Dec. 6, will be preceded by a meeting of the board of governors of CSMA, Dec. 5. On the morning of Dec. 6 there will be simultaneous sessions of four of the six divisions of which CSMA is composed. At the group luncheon that day the Achievement Award will be presented and the winners of the Aerosol Package Contest will be announced. Two divisional meetings will occupy the afternoon of Dec. 6. That evening the annual company open house feature will be held.

On the final day of the meeting a general session will be held in the morning, with the afternoon being given over to individual and joint sessions of the divisions. The cocktail party and banquet will be held in the evening.

Other program highlights to be presented during divisional meetings include:

"Current Status of Pyrethrum Supplies," by Russell B. Stoddard of Fairfield Chemical Division, Food Machinery and Chemical Corp., New York; "Modern Trends in Floor Finish Formulation," by Kurt J. Wasserman of Dura Commodities Corp., New York; "Surface Coatings in Aerosols," by J. W. Brampton, Krylon, Inc., Norristown, Pa.; "Determining Relative Polish Quality Using a Polish Comparator," by F. B.

Hutto and P. A. Martinson of Johns-Manville Products Corp., New York; and "Experimental Quaternary 3104," by Ely M. Swisher of Rohm & Haas Co., Philadelphia.

### New Hooker Plant

Durez Plastics Division of Hooker Electrochemical Co., Niagara Falls, N. Y., brought into production a new \$5,000,000 plant at Kenton, Ohio, it was announced in September by John F. Snyder, Sr., vice-president. The operation employs automation techniques for the production of long runs of the largest volume phenolic molding compounds in the Durez line. Phenol and formaldehyde are shipped from the main Durez plant at North Tonawanda, N. Y., via either of two connecting railroads to Kenton where resin is made from which the compounds are formulated.

Buildings occupy 15 of the 65 acres owned by Hooker two miles south of the city. Trucking lines are said to be readily available for shipments direct to customers or to Durez warehouses, four of which are located in the Midwest. Much of the unit's output of granular compounds is transported by semi-trailer.

### Labeling Group Proposals

The precautionary labeling committee of the Chemical Specialties Manufacturers Association submitted to the board of governors a number of proposals. The report stresses the growing interest of medical and related groups in the problem of accidental poisonings from chemical specialties and the consequent wave of state legislation regarding label warnings. An opportunity to participate in three discussions of the poisoning problem by medically affiliated groups is reported. The committee requests approval by the board of its plan to meet informally with a representative of the committee on toxicology of the American Medical Association which has suggested an exploratory meeting. The committee wishes to designate one of its members to attend a meeting on chemical poisoning in connection with



New \$5,000,000 Kenton, O., plant of Durez Plastics Division of Hooker Electrochemical Co., Niagara Falls, N. Y., which went into production late last month.

the convention of the American Public Health Association in Kansas City, Nov. 17. The member will act as official CSMA representative. It is proposed to ask one of the committee members to audit a symposium on health hazards of chemicals in connection with the meeting of the American Association for the Advancement of Science in Atlanta, Dec. 29. In addition, the committee may wish to ask for a place on the panel of speakers. Committee members will be authorized to enter into any discussions but will not make any commitments on behalf of CSMA. Authorization is sought by the committee for similar activities in the future at its discretion. A. Haldane Gee of Foster D. Snell, Inc., New York, is chairman of the precautionary labeling committee.

### Lewis Heads Sprayer Ass'n

D. P. Lewis, H. D. Hudson Manufacturing Co., Chicago, was elected president of the National Sprayer & Duster Association at the group's 10th annual meeting held recently in Montreal. He had been treasurer for the past ten years. This post is now held by P. L. Hauser, Root-Lowell Manufacturing Co., Chicago, retired president of the association.

### Aerosol Brochure

"Aerosols Unlimited" is the title of an 11-page illustrated brochure issued recently by Sprayon Products, Inc., Cleveland. An outline of aerosols' history starting with the Army bug bomb, written by John G. Ellis, president of the firm,

serves as foreword and introduction. Operations of the custom loader of aerosol specialties are described from formula development to drop shipment. Effective photographs show various phases of plant operations.

### "Duroxon" Price List

Price schedule and data sheets were released last month by Dura Commodities Corp., New York, on soft waxes produced by the Fischer-Tropsch synthesis. Characteristics, use information, and basic formulations with "Duroxon" soft mineral waxes are included and further details and samples can be obtained from Dura.

### Floor Maintenance Advice

Problems commonly encountered in the maintenance of asphalt and rubber tile floors are illustrated and analyzed in "Bulletin Board Edition No. 2," published recently by the National Sanitary Supply Association. Measuring 17 by 22 inches the bulletin is intended as a visual training aid in the instruction of maintenance personnel.

### Dieldrin for Termites

Subterranean termite control with dieldrin is described in a folder published recently by Shell Chemical Corp., New York. The bulletin tells how to use dieldrin safely so that it does not damage shrubs and plants. Dieldrin is chemically stable in alkaline soils, and is not broken down by plaster waste and other debris left in the critical soil around the house.

## NPCA Meets in Denver, Oct 17-19

CONTROL of various types of insects will highlight the discussion portion of the program of the 22nd annual convention of the National Pest Control Assn., to be held at the Cosmopolitan Hotel, Denver, Colo., Oct. 17, 18 and 19, it has just been announced by Ralph Heal, executive secretary. New developments in roach control, a forum on termites and flea and rodent problems will be featured in papers and panel discussions. In addition, sanitation in bakeries, restaurants and grain storage is slated to be discussed.

"Recent Progress in Research in the Control of Cockroaches" by J. C. Keller of the U.S. Department of Agriculture, Washington; "Investigations on Roach Resistance" by Lloyd L. Stitt of Velsicol Chemical Corp., Chicago, and "Precise Resistance Determinations on Field Strains of German Cockroaches," by Byron Williamson of Agricultural Specialties Corp., will highlight the afternoon session Oct. 17. Also on that day, the meeting will hear of "New Developments in Control of Fleas," by J. C. Keller of the U. S. Department of Agriculture, and a forum on termite control problems will be presented.

On the morning of Oct. 19, the following papers are scheduled to be presented:

"Phases of Weed Control of Interest to the Pest Control Industry" by William Harvey of the University of California; "Toxicity of Pesticides! Hazards and Precautions," by Justus C. Ward of the U. S. Department of Agriculture, and "Bird Control Problems," by Johnson Neff, Fish & Wildlife Service.

The following papers on sanitation will be presented on the final day of the meeting, Oct. 20:

"Sanitation and Pest Control in Bakeries," by Louis J. King, Jr., American Institute of Baking; "Restaurant Sanitation Standards and Pest Control," by J. Robert Cameron, Denver Department of Health and Hospitals; "The Grain Sanitation Program" — "Entomological Problems," by Lyman S. Henderson, U. S. Department of Agriculture; "Rodent & Bird Control Problems," by Lyman S. Henderson, and "The Role of the Pest Control Operator in Grain Sani-

tation" by M. S. Buckley, Industrial Fumigant Co.

### "Sani-Flush" "Mel'o" Sold

"Sani-Flush" and "Mel'o" have been acquired by Boyle-Midway, Inc., New York, from Hygienic Products Co., New York, it was announced recently. The transaction includes the plant and property at Canton, Ohio, where the two products continue to be made.

### New FMC Department

A new central development department has been set up for the chemical divisions of Food Machinery and Chemical Corp., New York, it was announced last month by Carl F. Prutton, FMC vice-president and technical director of the divisions.

Henry S. Winnicki, formerly European representative for the chemical divisions at Geneva, Switzerland, has been appointed manager of the new department. He is succeeded in his European post by Charles P. Roberts. Prior to going to Geneva, in 1953, Mr. Winnicki had been head of Westvaco's general development division for 10 years. Dr. Roberts had been section director at Westvaco's South Charleston, W. Va. plant from 1937 to 1954.

Central development will investigate new growth possibilities, examine chemical ventures of in-

Carl F. Prutton



terest to the company, make economic evaluations, study market situations and explore European opportunities. These functions will assist management in planning for development of its chemical activities.

### Barr Aids Handicapped

George Barr, president of G. Barr and Co., Chicago, has accepted the chairmanship of the Illinois Governor's Committee on Employment of the Physically Handicapped for the fifth consecutive year, it was announced last month. The committee is a voluntary group of citizens appointed by Governor Stratton to develop opportunities for handicapped workers. Its activities are coordinated with state and federal agencies in the field.

G. Barr and Co., aerosol fillers, employs nearly 90 percent physically disabled persons. Mr. Barr, himself an amputee, received in 1951 the President's trophy for outstanding contributions in the employment of the handicapped.

### Lehn & Fink Sales Up

Lehn & Fink Products Corp., New York, reported a new high in sales and a sharp drop in earnings for the fiscal year ending June 30, 1955. This unusual situation was attributed by Edward Plaut, president, to extraordinarily heavy television advertising expenditure.

Sales in the year ending June 30, 1955, totalled \$23,010,615, compared with \$21,719,258 the year before. However, the firm's net earnings declined to \$200,102 for 51 cents a share from \$1,055,538 or \$2.71 a share earned in the 1954 period.

### Conn. Chem. Buys Plant

Connecticut Chemical Research Corp., Bridgeport, announced last month the purchase of Good-year Rubber Sundries Co., New Haven. The New Haven operation will be a separate division and entity, A. O. Samuels, Connecticut Chemical president, said when announcing the acquisition.

### Aerosol Contest Dates

Entries for the aerosol industry's fourth annual packaging contest are being accepted between Sept. 15 and Nov. 1, it was announced recently by the Chemical Specialties Manufacturers Association. Judging will take place shortly after the closing date. Plaque awards will be made in ten different product groups, in addition to a grand award for the most outstanding package of the year. Winners will be announced at CSMA's 42nd annual meeting at the Roosevelt Hotel, New York, Dec. 5-7. All contest entries will be displayed as a major part of the annual aerosol festival at the meeting.

### Bobrick Publishes Catalog

A new illustrated catalog and jobbers' price list was announced recently by Bobrick Dispensers, Inc., Los Angeles, Calif. Covered are the firm's full line of dispensers for powdered liquid, and lather soap, as well as for lotion and viscous liquids. The list also includes accessory equipment such as valves, tanks, and fittings.

For copies of the list of prices effective in Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia, and District of Columbia, communicate with Bobrick at 1214 Nostrand Avenue, Brooklyn 25, N. Y.

### Doran Moves

Doran Chemical Corp., Kansas City chemical specialties firm, has moved from its Westport Road address, it was announced recently. The firm is now in the new plant at 5415-17-19 St. John Avenue, Kansas City 23, Mo.

### Dobson to Johnson

Robert E. Dobson has joined S. C. Johnson & Son, Inc., Racine, Wis., as manager of the appliance department, it was announced recently. He will develop marketing and advertising plans for Johnson's polisher-scrubber. Prior to his re-

cent appointment Mr. Dobson was associated with Westinghouse Corp., Mansfield, Ohio, where he served



Robert Dobson

successively as manager of the vacuum cleaner department, as merchandising manager for the same department, and most recently as marketing manager for portable appliances.

### Cut Quat Material Price

Prices for alpha-methylbenzyl dimethylamine have been reduced recently by Carbide and Carbon Chemicals Co., New York. The new schedule per pound is: \$1.89 for carload and truckload lots and \$1.90 for less than carload lots, both in drums; \$2.00 in five-gallon containers and \$2.15 in one-gallon containers. All quotations are f.o.b. South Charleston, W. Va., and include the cost of non-returnable drums. Suggested applications for alpha-methylbenzyl dimethylamine includes use as an intermediate in the manufacture of quaternary ammonium compounds.

### Home Laundry Conference

The ninth national conference of the American Home Laundry Manufacturers' Association will be held at the Palace Hotel, San Francisco, Nov. 2 and 3. Papers to be given include one by Esther McCabe, Colgate-Palmolive Co., Jersey City, N. J., entitled "What Soap, What Syndet?" A home laundry appliance exhibit will be featured at the meeting.

### In New Hercules Post

Appointment of Frank G. Oswald to the newly created post of manager of new product sales for the synthetics department of Hercules Powder Co., Wilmington, Del., was announced early this month by J. W. L. Monkman, the department's director of sales. Mr. Oswald will be responsible for planning, coordinating, and supervising introductory sales activities and sales promotion for the department's new and improved products, including polyhydric alcohols and products of the xylene oxidation process.

Mr. Oswald joined Hercules in 1937, has been assistant director of sales for the synthetics department for the past nine years.

### Gen. Mills Adds Offices

Five district sales offices located in key cities were opened by the Chemical Division of General Mills, Inc., Minneapolis, it was announced last month by S. D. Andrews, Jr., general manager of the division.

J. H. Allerdice has been placed in charge of the New York office at 80 Broad Street. The Detroit office at 8047 Hamilton Avenue, is managed by Melvin S. Herban, the Kansas City office at 612 West 47th Street, by D. E. Terry; and the Pittsburgh office at 300 Mt. Lebanon Boulevard, by Melvin T. Vincent. Another office will be located at 460 South N.W. Highway, Park Ridge, northwest of Chicago.

### Fallek Adds Fatty Alcohols

Fallek Products Co., New York, announced last month that a range of high purity fatty alcohols has been added to the line it is handling as sole U. S. distributor for Dehydag-Deutsche Hydrierwerke G.m.b.H. of Duesseldorf, Germany. Lauryl alcohol, minimum 98 percent C<sub>12</sub>; myristyl alcohol, minimum 95 percent C<sub>14</sub>; cetyl alcohol N. F.; stearyl alcohol U. S. P.; and arachidic alcohol, minimum 95 percent C<sub>20</sub>, are now being offered. Literature and samples are available from Fallek at 165 Broadway, New York 6, N. Y.





# SESQUICARBONATE OF SODA



## Check these Physical and Chemical Properties

Free-flowing  
Non-caking  
White, dustless crystals  
Rapid dissolving  
Unusually stable in storage  
Available in two bulk density grades  
(Snowflake Crystals and Snowfine)  
Low in iron and metallic impurities

Maximum solubility:  
15°C—17.9%  
25°C—20.3%  
55°C—25.2%  
75°C—28.9%

Sodium Oxide value  
(Na<sub>2</sub>O)—41.3%

pH of solutions at 25°C  
0.25%—9.8  
0.50%—9.8  
2.00%—9.7

\*Reg. U.S. Pat. Off.

Soda Ash • Snowflake® Crystals • Potassium Carbonate  
Calcium Chloride • Sodium Bicarbonate • Ammonium  
Bicarbonate • Cleaning Compounds • Caustic Potash • Sodium  
Nitrite • Ammonium Chloride • Chlorine • Caustic Soda  
Monochlorobenzene • Para-dichlorobenzene • Chloroform  
Ortho-dichlorobenzene • Methylene Chloride • Methyl Chloride  
Carbon Tetrachloride

with a distinctive combination  
of physical and chemical properties  
not found in any other form  
of alkali

**SOLVAY\*** SNOWFLAKE CRYSTALS brand of sesquicarbonate of soda has such an unusual combination of *both* physical and chemical properties that its uses range from that of an important ingredient in the manufacture of luxury cosmetic products . . . to its application in a wide variety of basic industrial processes.

The stable crystalline form of SOLVAY Sesquicarbonate of Soda gives it unusual physical properties. Sparklingly attractive, it remains free-flowing and non-caking even after prolonged periods of storage (in fact, it will frequently impart these qualities to dry materials with which it may be mixed). Almost entirely dustfree, it dissolves very rapidly and completely even at relatively low temperatures.

Chemically, SOLVAY Snowflake Crystals is a true sodium sesquicarbonate, a double salt of sodium carbonate and sodium bicarbonate, corresponding to the formula Na<sub>2</sub>CO<sub>3</sub> · NaHCO<sub>3</sub> · 2H<sub>2</sub>O. The product thus retains many of the active chemical properties of the stronger alkali, along with the mildness of the lower pH component.

SOLVAY Sesquicarbonate of Soda, in two grades of bulk density—Snowflake Crystals and Snowfine—is inexpensively priced. Both densities are available in any quantity—from single packages to bulk carloads—to meet any requirements.

If you will write and give us details of your operation, we will be glad to tell you how SOLVAY Sesquicarbonate of Soda can be used to the best advantage. If you'd like samples—write us.



## SOLVAY PROCESS DIVISION

ALLIED CHEMICAL & DYE CORPORATION

61 Broadway, New York 6, N. Y.

### BRANCH SALES OFFICES:

Boston • Charlotte • Chicago • Cincinnati • Cleveland • Detroit  
Houston • New Orleans • New York • Philadelphia • Pittsburgh  
St. Louis • Syracuse



# ®BECCO Perborate

## Use BECCO Sodium Perborate for its exceptional uniformity

Becco is manufacturing Sodium Perborate Tetrahydrate by a continuous process which gives a remarkably uniform product. The individual particles are substantially all single crystals with reduced crumbling and dusting characteristics.

Becco Sodium Perborate is widely used for dye development and in the manufacture of powder bleaches, cosmetics, etc.

**Characteristics of Becco Sodium Perborate Tetrahydrate:**  
Sodium Perborate Tetrahydrate—96.2% by weight, minimum  
Active Oxygen —10% by weight, minimum  
Solubility in Water at 25°C —3.4 g/100g  
Form —White crystalline powder  
Stability —Substantially no loss under ordinary storage conditions  
Write for Bulletin 45, "Becco Sodium Perborate", or for Becco's complete list of bulletins on the uses of peroxygen chemicals.

**BECCO CHEMICAL DIVISION**  
FOOD MACHINERY AND CHEMICAL CORPORATION  
STATION B, BUFFALO 7, N.Y.  
BUFFALO • BOSTON • CHARLOTTE • CHICAGO  
NEW YORK • PHILADELPHIA • VANCOUVER, WASH.



SOAP and CHEMICAL SPECIALTIES

# NEW!

## 2 TEST REPORTS OF GREAT SIGNIFICANCE

**DR. LOUIS C. BARAIL**  
Consulting Biochemist and Toxicologist  
10 EAST 43RD STREET  
NEW YORK 17, N.Y.

May 9, 1955  
No. T-17

The Miranol Chemical Company, Inc.  
275 Coit St., Irvington, N.J.

### EYE IRRITATION TEST REPORT

We have tested your sample of 20 per cent Miranol C2M for eye irritation according to the method of Draize, Woodard and Calvery. 0.1 cc of the sample was instilled in the conjunctival sac of rabbits. One eye was used for the test, while the other eye was used as a control. The eyes of the animals were observed after 1, 24 and 48 hours.

#### Results

	Instilled eyes		
	1 hour	24 hours	48 hours
Cornea	0	0	0
A. opacity	0	0	0
B. area of cornea involved	0	0	0
Iris	0	0	0
Conjunctiva	0	0	0
A. redness	0	0	0
B. chemosis	0	0	0
C. discharge	0	0	0
Totals	0	0	0
Control eyes	0	0	0
Totals	0	0	0

#### Conclusions

The above results showing the total readings of 0, 0 and 0 after 1, 24 and 48 hours indicate that the submitted sample of Miranol C2M is not irritating to the eyes of rabbits.

Respectfully submitted

*Dr. Louis Barail*  
Dr. Louis C. Barail

**DR. LOUIS C. BARAIL**  
Consulting Biochemist and Toxicologist

10 EAST 43RD STREET  
NEW YORK 17, N.Y.

The Miranol Chemical Company, Inc.  
275 Coit St., Irvington, N.J.

May 9, 1955  
No. T-18

### SKIN IRRITATION TEST REPORT

We have examined a sample of 20 per cent Miranol C2M to determine whether it contains primary skin irritants. The method used was the animal intradermal single injection method. 0.5 cc of a 5 per cent solution of the sample was injected with aseptic precautions intradermally into rabbits. As a control, 0.5 cc of a 5 per cent solution of olive oil castile shampoo was also injected under the same conditions into the animals.

Twenty-four hours after the injection, the animals were observed for the presence of skin irritation in comparison with that of olive oil castile shampoo.

Samples	Results	Reaction on skin
20 per cent Miranol C2M		++
Olive oil castile shampoo		
Legend		
- No irritation		
+ Slight reaction		
++ Definite reaction		
+++ Very definite reaction		
++++ Very definite and spreading reaction		

Conclusion

The above results indicate that the sample of 20 per cent Miranol C2M is not irritating when injected intradermally into rabbit skin.

Respectfully submitted

*Dr. Louis Barail*  
Dr. Louis C. Barail

# A NON-IRRITATING AMPHOTERIC SURFACTANT

## MIRANOL C2M CONC.\*

MIRANOL C2M CONC. is a new amphoteric surface active agent which is completely non-irritating as proved by laboratory tests. Chemically it is a dicarboxilic analogue of MIRANOL CM CONC., the coconut derivative of the MIRANOL M SERIES. It has an active content of 50%. The product has a pH of 7.8 measured directly and 8.1 in 20% solution in local tap water.

As the intradermal injection test report shows (the severest test of its kind) MIRANOL C2M CONC. caused no reaction (-) whereas the accepted standard for mildness (Olive Oil castile shampoo) caused a "definite reaction" (++) . Water causes a slight reaction, thereby proving to be more irritating than MIRANOL C2M CONC. Practically all surface active agents show irritation ratings of ++ to +++ or higher.

As a shampoo, MIRANOL C2M CONC. is a profuse and instant flash foamer, even on first application to the hair. Crystal clear products with exceptional temperature stability can be formulated with MIRANOL C2M CONC.

MIRANOL C2M CONC. is specifically recommended for the formulation of shampoos, hand soaps, rug shampoos and all such household and/or industrial cleaner formulations where complete absence of irritation is desirable.

MIRANOL C2M CONC. is compatible with quaternary germicides and may be used in the formulation of non-irritating medicated shampoos or hand soaps. When combined with normally irritating surfactants MIRANOL C2M CONC. will materially reduce or even completely eliminate all irritating properties.

\*U.S. Patent No. 2,528,278  
Other patents pending

THE  
**MIRANOL**  
CHEMICAL COMPANY

INCORPORATED  
275 COIT ST., IRVINGTON, N.J.

Tel: ESsex 5-6203

Manufacturers of Synthetic Organic Detergents for all industries

Got a  
Detergent  
Compounding  
Problem?

# DRYMET

WILL HELP YOU SOLVE IT-

and COWLES Know-How will Help, too

## BETTER DETERGENCY?

DRYMET puts more genuine colloidal punch into your cleaning compounds. More soil-loosening. More soil-dispersing action.

- Years of diversified experience in detergent manufacture—
- Well equipped, expertly staffed detergent research laboratories—
- Available to help you use DRYMET more effectively



## Send for this DRYMET file folder

- Chemical and physical Properties of DRYMET
- Recommended Detergent Formulations with DRYMET
- Individual suggestions for improving your products

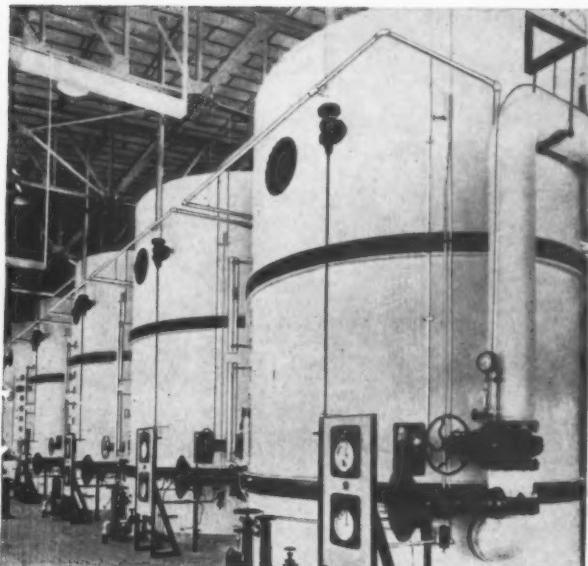
## pH CONTROL?

DRYMET buffers alkali hydroxides, carbonates, phosphates, soaps, synthetics. Pegs the pH were you want it.

*Cowles*

C H E M I C A L C O M P A N Y

7020 Euclid Ave. • Cleveland 3, Ohio



**FROM KITCHEN PANS . . . TO VACUUM PANS . . .**

# Metal cleaners made with Du Pont Sulfamic Acid remove scale and deposits . . . quickly . . . safely!

Sugar-mill operators, dairy owners, housewives *all* want metal cleaners that feature (1) speed, (2) safety, and (3) economy. And now with Du Pont Sulfamic Acid in the formulation you can give them all three!

Sulfamic Acid combines strong-acid efficiency with low corrosive action. It cuts through stubborn scale and grime . . . minimizes handling hazards and equipment maintenance costs. Now your customers

can clean everything from copper pots to industrial boilers faster and more economically. And storage and packaging problems are virtually eliminated because Sulfamic Acid is an odorless, non-volatile crystalline powder.

This versatile acid can help increase *your* cleaner sales—both industrial and domestic. For more information clip coupon below and mail it to Du Pont.

**MAIL THIS COUPON TODAY!**

**DU PONT  
SULFAMIC ACID**



Better Things for Better Living . . . through Chemistry

E. I. du Pont de Nemours & Co. (Inc.)  
Grasselli Chemicals Dept., Room N-2539  
Wilmington 98, Delaware  
In Canada: Du Pont Company of Canada Limited, Box 660, Montreal

Please send me your bulletin on Sulfamic Acid and information on its application in cleaning.

Name \_\_\_\_\_ Position \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

*these two*

# NOPCO HYONICS

*offer a hard-to-find combination of properties*

### HYONIC FA 75

(*a 70% active modified fatty alkylolamide*)

... tolerates substantial quantities of alkaline builders and remains stable

... gives 50% to 100% more foam

... highly soluble in electrolyte solutions, which will not cause insoluble precipitation, even at fairly high concentrations

... particularly suitable for liquid products where anionics are required to gain complete solubility and stability

### HYONIC FA 40

(*a 100% active nonionic alkylolamide*)

... has extreme thickening action, which gives attractive body to liquid detergents at low solids concentrations

... non-corrosive. Allows finished formulations to be packaged in plain metal containers

... high foaming ... outstanding detergency in the presence of phosphate builders

... highly resistant to precipitation by calcium ions

#### SOME TYPICAL FORMULATIONS

Window Cleaner	
Methanol .... 5%	
Isopropanol .. 5%	
HYONIC FA 75 1%	
Water ..... 89%	

Bar Glass Cleaner	
HYONIC FA 75 20%	
Water ..... 80%	

Liquid Scouring Concentrate	
HYONIC FA 75 11%	
Soda Ash .... 6%	
Sodium Tripolyphosphate .. 5%	
Water ..... 78%	

#### SOME TYPICAL FORMULATIONS

Emulsion Cleaner	
Stoddard's Solvent .... 45%	
HYONIC FA 40 5%	
Water ..... 50%	

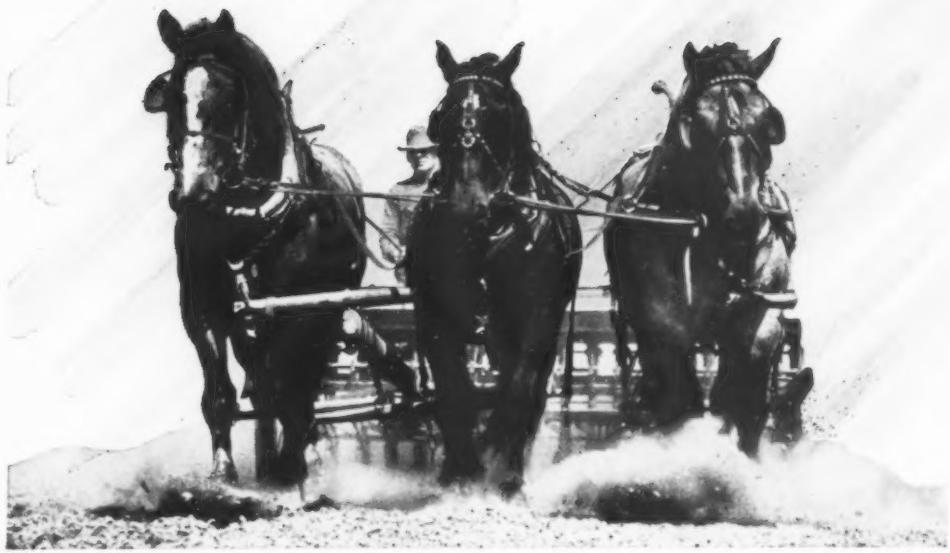
Bodied Soap Shampoo	
Potash Vegetable Soap .. 7%	
HYONIC FA 40 3%	
Sodium Tripolyphosphate .. 2%	
Water ..... 88%	

Household Floor Cleaner	
HYONIC FA 40 7%	
Sodium Tripolyphosphate .. 5%	
Anionic Detergent (variable) .. 3%	
Water ..... 85%	

The above are but two of Nopco's fast-growing list of "families" of detergent aids. Others include 100% active, nonionic, ethylene condensates, also 100% active lauric acid alkylolamide condensates. Nopco's technical men

will work with you to the fullest to help give your detergents many practical, saleable advantages. For full information write today. Nopco Chemical Company, 788 Industrial St., Harrison, N. J.

PLANTS: Harrison, N. J. • Cedartown, Ga. • Richmond, Calif. • London, Canada



*these "Work Horse" alkalis  
are "thoroughbreds"!*

**CAUSTIC SODA:** Our strategically located South Charles-ton, W. Va. plant is the site of one of the largest electrolytic caustic-chlorine operations in the world, insuring you of uniform quality and dependable delivery by barge, tank truck or tank car.

**CAUSTIC POTASH:** To supply every need for Potash, Westvaco offers all three forms—liquid, flake and solid, packaged to protect the product quality so guarded in every step of the manufacturing process.

**SODA ASH:** From our Westvaco, Wyoming plant, users from the Mississippi Valley to the Pacific are enjoying the superior quality of WESTVACO Soda Ash, made from the world's largest deposit of unbelievably pure Trona (natural sodium sesquicarbonate).

Yes—with a background that includes over half a century of service, Westvaco remains your most dependable source of thoroughbred "Work horse Alkalies".

Westvaco Chlor-Alkali Division  
FOOD MACHINERY AND CHEMICAL CORPORATION  
General Offices • 161 East 42nd Street, New York 17  
CHARLOTTE, N.C. • CHICAGO, ILL. • DENVER, COLO. • PHILADELPHIA, PA. • ST. LOUIS, MO.

**Westvaco®**

**CAUSTIC SODA**

Liquid 73%  
Liquid 50%, Regular and Low — Chloride Grade  
Flake, Solid and Ground, 76% Na<sub>2</sub>O

**CAUSTIC POTASH**

45 and 50% Liquid — Flake and Solid

**SODA ASH**

Refined, Light and Dense  
Natural, Light and Dense



CHEMICALS BY  
  
 WHITEHAVEN, ENGLAND

**ALKYL ARYL  
SODIUM  
SULPHONATES**  
 based on  
 tetrapropylene polymer  
**\* NANSAN**  
 brand



**\* NANSAN H.S. FLAKE**

*80% dodecyl benzene  
sodium sulphonate*

**\* NANSAN S. POWDER**

*40% spray dried dodecyl  
benzene sodium sulphonate*

**\* NANSAN LIQUIDS**

*built alkyl aryl sodium  
sulphonate liquids*

**\* NANSAN U.C. POWDER**

*bead type totally spray dried  
synthetic detergent containing  
molecularly condensed phosphates,  
carboxy-methyl-cellulose,  
silicates, foam builders  
etc.*

AGENTS & OFFICES IN PRINCIPAL CITIES OF THE WORLD

MARCHON PRODUCTS LTD. Head Office : Whitehaven. Telephone : Whitehaven 650 and 797 (8 lines). Telegrams : Marchonpro,  
 Whitehaven. London Office : 140, Park Lane, W.I. Telephone : Mayfair 7385 (3 lines). Telegrams : Marchonpro, Audley, London.

Manufacturers of...

ORGANIC DIVISION: Fatty alcohol sulphates (EMPICOLS), emulsifiers (EMPILANS), self-emulsifying  
 waxes (EMPIWAXES), alkyl aryl sulphonates (NANSAS) and other detergent bases, additives and  
 emulsifiers in powder, paste and liquid forms.

INORGANIC DIVISION: phosphoric acid and  
 complex phosphates.

# SHULTON

**Fastest Growing  
Producer  
of  
Fine  
Aromatic  
Chemicals**

## NOW ADDS—

MENTHOL U.S.P. CRYSTALS AND ISOMERIC MENTHOLS,  
MUSK AMBRETTE, MUSK KETONE AND MUSK XYLOL  
to its line — produced in Shulton's newly acquired facilities of the  
A. Maschmeijer, Jr. Division.

This combination of modern research and development with years of  
experience in producing fine quality materials is another step toward  
bringing better products to our customers.

Producers of  
Benzyl Alcohol, Benzyl Benzoate,  
Eugenol, Isoeugenol, Heliotropine,  
Linalyl Acetate, Linalool, Rhodinol,  
Vetivert Acetate, Vanitrope® brand  
propenyl guaethol . . . and other  
perfume and flavor chemicals and  
specialties.

Samples and Technical Information Available on Request.

# SHULTON

FINE CHEMICALS  
DIVISION

Sales Office: 630 Fifth Avenue • New York 20, N.Y.



## ...when you filter with CELITE

THE FLOOD of new brands in the liquid soap and detergent field has made shoppers more selective than ever before. A cloudy product loses out when there's a sparkling clear one on the shelf beside it. And, chances are the ones that sparkle brightest have been filtered with Celite\* diatomite filter aids.

Celite provides its exceptional clarity by means of a filter cake that is

hundreds of times finer than the finest wire mesh. Yet, there are 2,500,000 filter channels in each square inch to give the fastest flow rates with any standard filter. Operation is automatic and economical.

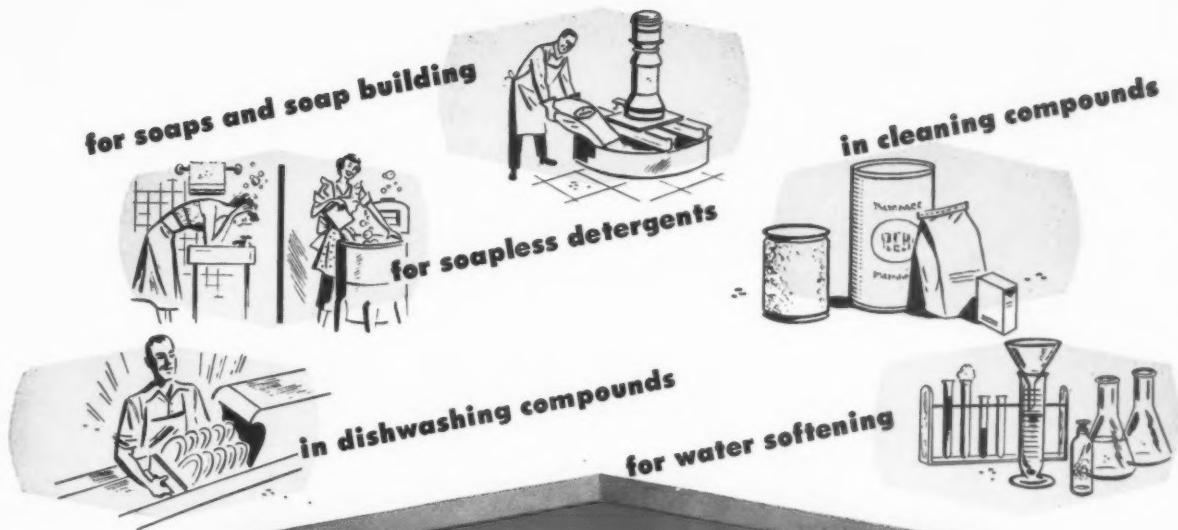
Many manufacturers are using Celite today for filtering soaps and detergents which are in a liquid state at some stage. Many ingredients for these products, as well as other fats

and oils, can also be successfully clarified with one of Celite's nine grades. Call a Celite engineer for further information or write Johns-Manville, Box 60, New York 16, N. Y. In Canada, 565 Lakeshore Road East, Port Credit, Ontario.

\*Celite is Johns-Manville's registered trade mark for its diatomaceous silica products



**Johns-Manville CELITE FILTER AIDS**



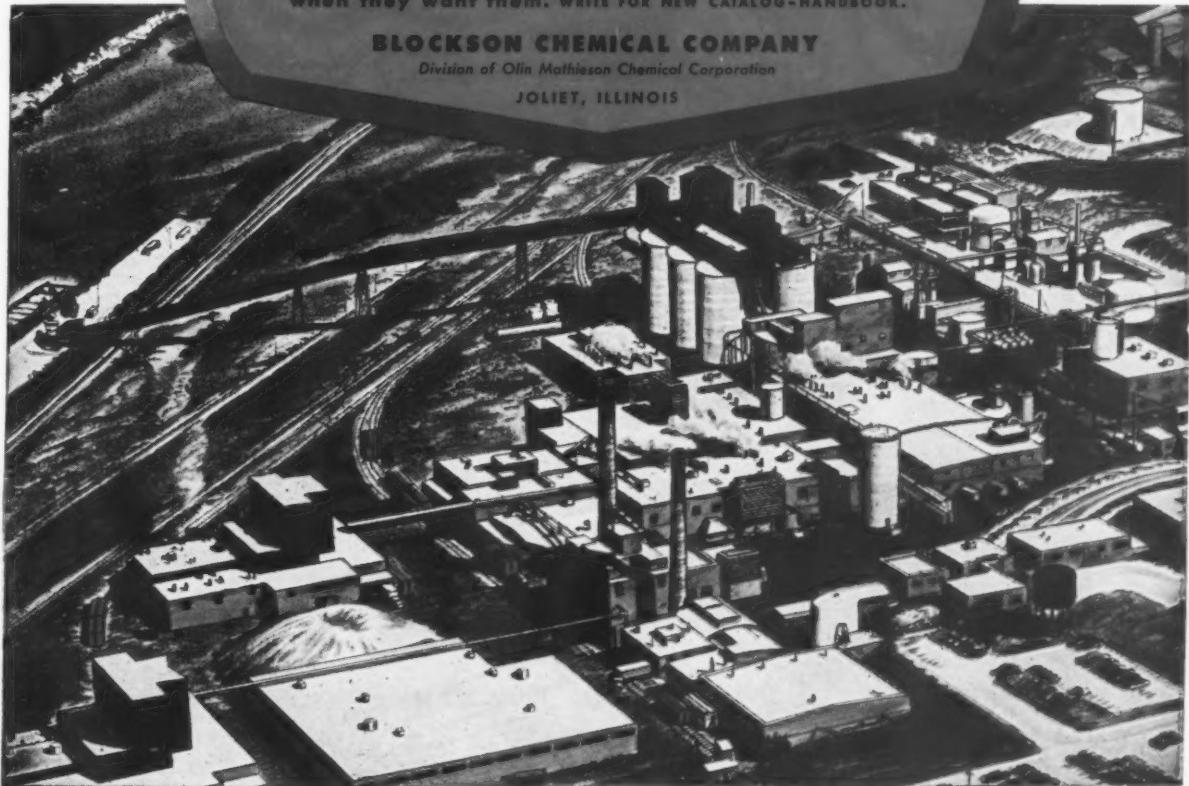
## BLOCKSON Sodium Phosphates

Blockson is the sodium phosphate producer that provides small and large users alike with the phosphates they want when they want them. WRITE FOR NEW CATALOG-HANDBOOK.

**BLOCKSON CHEMICAL COMPANY**

Division of Olin Mathieson Chemical Corporation

JOLIET, ILLINOIS



Blockson Plant . . . Joliet, Ill.

- Sodium Tripolyphosphate
- Tetrasodium Pyrophosphate, Anhydrous
- Sodium Polyphos (Sodium Hexametaphosphate) (Sodium Tetraphosphate)
- Trisodium Phosphate, Crystalline
- Trisodium Phosphate, Chlorinated
- Trisodium Phosphate, Monohydrate
- Disodium Phosphate, Anhydrous
- Disodium Phosphate, Crystalline
- Monosodium Phosphate, Anhydrous
- Monosodium Phosphate, Monohydrate
- Sodium Acid Pyrophosphate
- Sodium Silicofluoride
- Sodium Fluoride
- Hygrade Fertilizer
- Sulfuric Acid
- Teox® 120





*A New Milestone of Modern Perfume Research*

# AMBROPUR »DRAGOCO«

(REGISTERED)

embodies the 100% fragrance principle of highest-quality genuine ambergris in its purest form. That's why it possesses the true ambergris odour - full, warm, and velvety - that perfects perfume, enhancing and fixing it without changing the character of a composition.

Please ask for our Special DRAGOCO-REPORT on AMBROPUR DRAGOCO.

**DRAGOCO HOLZMINDEN**



DRAGOCO HOLZMINDEN WEST GERMANY Telex. 096326 Cables: DRAGOCO HOLZMINDEN (West Germany)

# CHEELOX B-14



*The Balanced  
Organic  
Sequestering  
Agent*

Specifically designed to inactivate CALCIUM and MAGNESIUM PLUS all traces of IRON. In alkaline processing liquors, calcium and iron sequestering is accomplished SIMULTANEOUSLY.

CHEELOX B-14 is the new, all-purpose chelating agent which is soluble and stable at all temperatures in neutral, acid and alkaline solutions. For economical control of metal ions, regardless of the problem, Cheelox B-14 is the product to use.

To determine the effectiveness and economy of Cheelox B-14, we suggest you compare this new sequestering agent with the product you are now using.

Send today for a sample and technical data on the uses of Cheelox B-14.

*From Research to Reality*

**ANTARA<sup>®</sup> CHEMICALS**

A SALES DIVISION OF GENERAL ANILINE & FILM CORPORATION  
435 HUDSON STREET • NEW YORK 14, NEW YORK

SALES OFFICES: New York • Boston • Providence • Philadelphia • Charlotte • Chattanooga • Chicago  
Portland, Ore. • San Francisco • Los Angeles • IN CANADA: Chemical Developments of Canada, Ltd., Montreal

ANTARA



# BIG DETERGENT NEWS

**Monsanto develops  
superior, low-dust Santomerse  
from new alkyl benzene**

Santomerse No. 1, Monsanto's all-purpose alkyl aryl sulfonate surface active agent, is now better than ever.

Tests reveal substantial reduction in dusting. The flake is less friable, much stronger. Compounders will find this material is easy to handle and will produce an end product of excellent quality and appearance.

The improved Santomerse No. 1 is made with a new alkyl benzene developed by Monsanto, which you, too, can use to produce a better sulfonate.

The new Monsanto alkyl benzene is less color sensitive and produces a whiter sulfonate. When sulfonated, the odor level is exceptionally low. This is an important feature for manufacturers of liquid detergents.

For details of these and other Monsanto detergent products, write:  
MONSANTO CHEMICAL COMPANY, Inorganic Chemicals Division, 710  
North Twelfth Boulevard, St. Louis 1, Missouri.

Santomerse: Reg. U. S. Pat. Off.

SERVING INDUSTRY . . . WHICH SERVES MANKIND



**...FOR CONSISTENT  
HIGH QUALITY...LOW COST IN  
soaps AND shampoos**

check Emery's  
complete  
line of  
Fatty Acids!



**If you now use fatty acids...** it's to your advantage to buy *all* your fatty acids from one dependable source. Emery's strict quality control assures you of *consistent plant performance* and a better finished product...always!

**If you now use some Emery Fatty Acids...** you can save money by buying *all* your fatty acid requirements from Emery in mixed car or truckloads of animal, vegetable, oleic or stearic acids.

**If you now use whole oils...** Emery Fatty Acids offer you these six important advantages: (1) greater uniformity, (2) instant saponification, (3) wide choice of alkalis, (4) greater formulation flexibility, (5) wider selection of finished product characteristics, and (6) lighter colored products.

**If you now use Olive Oils...** Emersol Vegetable Elaines are (1) lighter colored, (2) more uniform, (3) usually lower priced, (4) higher quality, and (5) made from a domestic all-vegetable source.

Look into Emery's complete line of *two* animal fatty acids, *eleven* vegetable fatty acids, *seven* oleic acids, and *two* vegetable oleic acids. Write Dept. S-10 today for samples and specifications of the Emery products that fit into *your* operations.

**Emery**

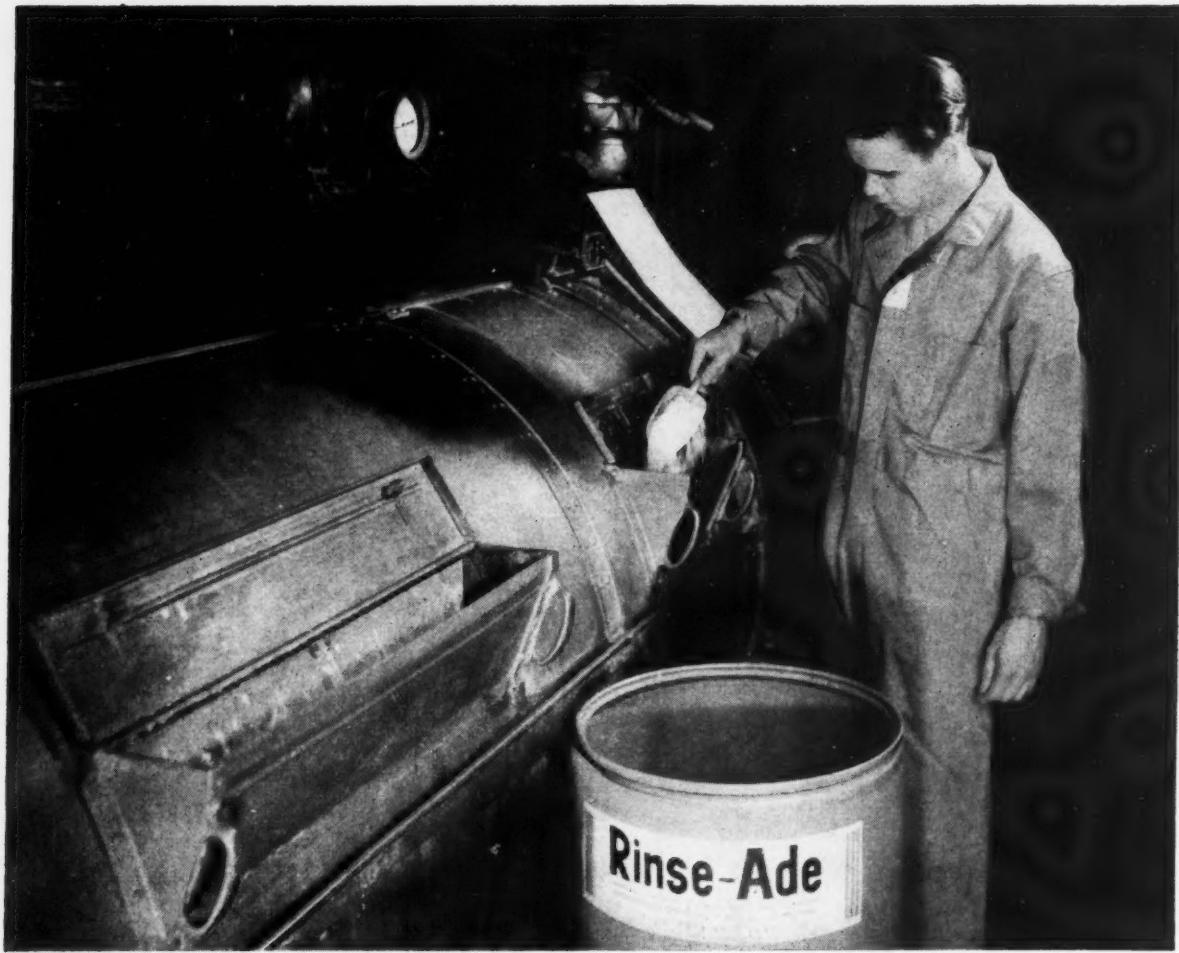
Emery Industries, Inc., Carew Tower, Cincinnati 2, Ohio

Fatty Acids & Derivatives  
Plastolein Plasticizers  
Twitchell Oils, Emulsifiers

New York • Philadelphia • Lowell, Mass. • Chicago • San Francisco  
Cleveland • Ecclestone Chemical Co., Detroit

Warehouse stocks also in St. Louis, Buffalo, Baltimore and Los Angeles

Export: Carew Tower, Cincinnati 2, Ohio



"RINSE-ADE", a CMC-based product of Frontier Alkali Corp., Buffalo, N.Y., keeps soil in suspension, rinses fast, and saves hot water.

## in Commercial Laundry Preparations THE KEY IS CMC

Commercial laundry preparations, as well as detergents and soap for home use, get clothes whiter, faster when they include Hercules® CMC in the formulation.

The exceptional soil-suspending properties of CMC insure that dirt particles go down the drain with the rinse water and are never redeposited on the clothes. And CMC-based preparations are economical to use.

For example, directions for the use of "Rinse-Ade" call for only 6 ounces per 100 pounds of clothes.

Commercial laundries and leading manufacturers of cleaning agents everywhere are discovering the advantages of economical CMC. Prove for yourself what CMC can do. Technical information and a testing sample are available on request.

*Virginia Cellulose Department*  
**HERCULES POWDER COMPANY**  
INCORPORATED  
961 Market St., Wilmington 99, Del.



# ... in brief

 GIANTS . . . The battle for detergent markets now seems to be centering in these new giant size packages. First there were five pound packages, then ten, then metal pails holding anything from twenty pounds up. Now, we come to the giant size cartons holding fifteen or twenty pounds of detergent or soap, each equipped with a carrying handle and resembling a small over-night bag. The theory behind these giant packages is evidently that if Mrs. McGuff buys fifteen pounds of your stuff, the chances are she will not buy any other brand for a long, long time. Also she saves money.

Right now in Europe, we are told, the package trend in soaps and detergents is toward smaller sizes. Why? We don't know. But in the case of the U. S., the next step, we figure, might even be a fifty pound carton or drum, one wheel barrow free with each purchase to get the stuff home.

\* \* \* \* \*

 PUBLICITY . . . Much is heard today about the "need" for "public relations programs" to be undertaken in behalf of individuals, companies, and trade associations. Public relations, which involves more than just grinding out press releases on a mimeograph machine, may be a very necessary part of some businesses and trade associations. Maybe actors and the like need publicity real bad, but in numerous instances we think the thing is being overdone.

Because we are on the receiving end of many alleged publicity releases, — at the rate of about a bale per day, most of which belongs in the advertising pages of the magazine, — we can testify to the great growth of the idea over the past decade. The quality of some releases has improved as the volume has swelled, but most of the stuff we get is foreign to our field.

For the firm or association contemplating a public relations campaign, we would make certain first of all that a real need exists and that a definite end can be accomplished. Witness the CSMA moth control program. But publicity just for publicity's sake, and as a sop to the ego of company brass is generally a waste of good money. And, invariably, the best made products and the most successful organizations seek publicity the least, but get the most.

\* \* \* \* \*

 ODOR . . . If the leading marketers of detergents, dishwashing liquids, or soaps see fit to perfume their products, they must have a pretty good reason. They don't spend money for perfume just for the fun of it. Perfumed products sell better, and they know it. All of which makes us wonder why some of the smaller and medium size outfits still believe that they can sell their products *sans* perfume and too frequently with an unpleasant odor.

Recently, we ran across two products, both marketed by outfits of fair size, both supposedly experienced marketers. One is a liquid wall and woodwork cleaner, the other a liquid hand cleaner. The first has no perfume at all, the second not enough to cover the odor of the product itself. The first is a new product, the second one pretty well known. Both are well packaged. Both are excellent items from the performance angle. Evidently a lot of thought and planning goes into the marketing of both products.

In this day and age, things should not be unpleasant to use if at all possible. And in the case of detergents and cleansers, it is possible. The big outfits have found it out. Why then other marketers fly in the face of this experience is a puzzle to us. We have a hunch that we'd imitate success down to the last dot.

A  
M  
E  
R  
I  
C  
A  
'S  
L  
E  
A  
D  
I  
N  
G  
S  
Y  
N  
T  
H  
E  
T  
I  
C  
D  
E  
T  
E  
R  
G  
E  
N  
T

# "Over 21"

that's

## Nacconol® the pioneer detergent that still leads the field

Over 21 years of constant product improvement has made Nacconol "America's leading synthetic detergent".

Today Nacconol is available in a physical form to fill your every need—to give maximum efficiency at minimum cost to all types of detergent mixtures.

For price and delivery quotations get in touch with our nearest office.

Nacconol

### NATIONAL ANILINE DIVISION

ALLIED CHEMICAL & DYE CORPORATION  
100 BROADWAY, NEW YORK 6, N.Y. • HANOVER 7-7300  
Montgomery 2-2100 • Atlanta 2-2200 • Boston 2-2200 • Chicago 2-2200 • Cleveland 2-2200 • Dallas 2-2200 • Denver 2-2200 • Detroit 2-2200 • Houston 2-2200 • Indianapolis 2-2200 • Kansas City 2-2200 • Los Angeles 2-2200 • Milwaukee 2-2200 • Minneapolis 2-2200 • New Orleans 2-2200 • New York 2-2200 • Newark 2-2200 • Philadelphia 2-2200 • Pittsburgh 2-2200 • St. Louis 2-2200 • Seattle 2-2200 • San Francisco 2-2200 • Toronto 2-2200 • Venezuela 2-2200 • Worcester 2-2200  
Montgomery 2, Ala., Atlanta 2, Ga., Birmingham 2, Ala., Boston 2, Mass., Chicago 2, Ill., Cleveland 2, Ohio, Dallas 2, Tex., Denver 2, Colo., Detroit 2, Mich., Houston 2, Tex., Indianapolis 2, Ind., Kansas City 2, Mo., Los Angeles 2, Calif., Milwaukee 2, Wis., Minneapolis 2, Minn., Newark 2, N.J., New Orleans 2, La., New York 2, N.Y., Newark 2, N.J., Philadelphia 2, Pa., Pittsburgh 2, Pa., Seattle 2, Wash., St. Louis 2, Mo., Worcester 2, Mass.



#### FLAKE

Nacconol NR      Nacconol SX  
Nacconol HG      Nacconol NRSF  
Nacconol FSNO    Nacconol Z

#### LIQUID

Nacconol SL  
Nacconol 60S

#### BEAD

Nacconol Beads  
Nacconol DB

#### GRANULAR

Nacconol MX Granular  
Nacconol MX Unimesh

#### POWDER

Nacconol SW



DERMATITIS . . . In all probability, synthetic detergents do not cause any more skin irritation than plain old fashioned soaps, according to a Boston dermatologist, Dr. George E. Morris. In an article appearing in the *Archives of Dermatology*, Dr. Morris states that hand irritations and dermatitis of the hands are no more common now than back in the days before detergents were used on such a wide scale. The cause today is just recognized more frequently, he added.

"Detergents which are complex chemicals derived from petroleum, animal and vegetable oils and sulfuric acid, may cause dryness and scaling . . . of the hands." This the doctor added in his discourse. We particularly liked the reference to sulfuric acid which is calculated to scare the pants off any layman. As for being "complex chemicals," so are the majority of the foods we eat. So, for that matter, is soap. What has a complex chemical got to do with skin disorders?

The good doctor then suggests the use of rubber gloves with cotton ones underneath, and the use of cold water for clothes and dishes. Hot water, he says, aggravates skin troubles. And he also says one of the "neutral fine-fabric" detergents should be used. And, there Mr. Soaper, you have all your dermatitis problems solved. Just tell Mrs. McGuff to wash the old man's greasy overalls in cold water. It's as simple as that.

\* \* \* \* \*

BUY OR SELL . . . If things work out like they might work out, a lot of changes could take place in the complexion of the chemical specialty and sanitary supply fields over the next year or two. At this sitting, it would seem that everybody wants to buy out everybody else. Never in our thirty years in and around this field have we heard more talk of mergers, combinations and the like. Easterners are looking for plants in the mid-west and on the coast; Westerners vice versa. Everybody wants to expand.

Of all the instances which have come to our recent notice, only one bloke wants to sell his business. All the rest want to buy. They want to be bigger, do a national business and save on freight rates. Mostly they want ready-made go-

ing concerns to save the trouble apparently of building up sales in a new locale. Most of them are well heeled with cash or at least they give that impression.

To some extent, it reminds us of 1928-29 when all sorts of small outfits were banded together in the form of "syndicates" or combines. But in those days the stock was sold to the public. Came the "revolution" of 1929-32 and most of them melted away, some of the units to be bought back by former owners at sacrifice prices. Today, it's a bit different. Business is basically sound. It was not in the giddy days of the late twenties. Maybe some of these new proposed mergers could do quite well. We shall see.

\* \* \* \* \*

IN THE ACT . . . The matter of accidental poisoning by household chemicals, drugs and medicines is becoming a more important subject, it would seem. That the problem has existed for a hundred years in one form or another does not seem to make any difference. The matter has been given so much recent newspaper publicity that today everybody apparently wants to get in on the act. At the meeting of the American Public Health Association, there will be a special session on "chemical poisoning" on November 17. A symposium on "health hazards of chemicals" will be held at the meeting of the American Association for the Advancement of Science Dec. 29.

For several years past, the American Medical Association has had the matter under advisement in one form or another. Now, they too plan an early meeting of an "exploratory" character of their Committee on Toxicology with representatives of the chemical, drug and chemical specialty industry associations. And, they tell us, progress is being made in the establishment of "poison control" centers in various cities.

The members of the Precautionary Labeling Committee of the Chemical Specialties Manufacturers Association, which quietly has been working out means and procedures for solving the problem, if it is solvable, has our deepest sympathy. Everybody crowding into the act could cramp the committee's work, invite in opportunists, cause unnecessary alarm, and bring alleged solutions which are neither logical nor practical. But what to do about it?

DOW



# ENTER DORISYL! BRINGING A WOODY-FLORAL LIFT

*to boost  
your products' sales*

Meet one of the brightest, cleanest and most interesting aromatic chemicals to be introduced in recent years. Dorisyl\* is new. Its violet-woody odor exhibits essential oil naturalness complementing ionine types of aromatics.

Dorisyl is stable. Four ways stable. It's stable in price (right in line with aromatic raw materials for soap) . . . chemically stable over a wide pH range . . . stable in quality and stable in supply.

And Dorisyl is versatile. Its uses range wide in floral and complex compositions. It has been incorporated into formulations for use in creams, toilet waters, specialty cosmetics, soaps and detergents to name just a few.

Interested in knowing more about Dorisyl? Want samples? Just a note on your company letterhead will do it. Address THE DOW CHEMICAL COMPANY, Midland, Mich., Dept. AR 376C.

\*Trademark of The Dow Chemical Company

*you can depend on DOW AROMATICS*



## as the reader sees it...

### Gold Plate—Again

Editor:

You raised the point in the "Tale Ends" column of September *Soap* about what possible use there would be for a gold-plated soap dispenser.

This is a problem very close to my heart. Last May I was presented with a gold-plated soap valve (see cut) by the officials of U. S. Sanitary Specialties Corp., with which I am associated. I might add it was not an imported product, but was produced in Chicago, which is nowhere near Jolly Old England, but in the good old U. S.

Having come into possession of this valuable bit of hardware, I had to decide whether it was to be a White Elephant. The first thought, naturally, was to install it on a soap dispenser, but it seemed out of place there and could be mistaken by the uninformed for brass. So that wouldn't do.

Next I thought of giving it a decorative, rather than a utilitarian purpose by making it into a watch-chain charm. That was fine except I listed to port when I strolled down the street.

There was a stray thought of installing it in a Solid Gold Cadillac, but since I don't have the Cadillac, I let it go.

The soap valve, in all its gold-plated glory, now rests on my desk to hold down papers, cause comment and act as a general reminder that not all gold-plated soap dispensers come from England. It just ain't necessarily so.

B. J. SCHONBERG,  
Manager, Eastern Division,  
U. S. Sanitary Specialties Corp.,  
New York.

— \* —

### More on Drums

Editor:

Your July, 1955 issue contained an editorial on "Drums" concerning the current controversy of

the National Barrel and Drum Association, representing the steel drum reconditioners; and the Steel Shipping Container Institute, representing the steel drum manufacturers.

Your editorial states that you have decided to "chip in your two cents worth" and then proceeds to make some broad and unfounded statements which we believe are unjust criticism of an industry producing a quality product.

You do not attempt to make any distinction between the raw (used) drum and the reconditioned drum; but are brash enough to state that you would be ashamed to stencil your name on many of these packages "reconditioned though they may be."

We would be glad to have you inspect modern drum reconditioning plants throughout the United States and show you the quality of their product. We have stated that our product when emanating from these modern plants is indistinguishable from its new counterpart; that this is not self-praise is proven by the fact that

the steel drum manufacturers, in their campaign to promote the sale of new drums, recommended that each drum manufacturer place a "red-S" label on the head of each drum so that the user could distinguish it from a reconditioned drum.

It is unfortunate that you have "seen" drums which should have been consigned to the scrap heap. Our industry regularly sends drums unfit for further re-use as a shipping container to the scrap yard. However, some drum fillers fill the drums, which they have received as a shipping container for one of their raw materials, with their own finished product. This re-use is effected without any prior reconditioning or testing. We think it manifestly unfair that we, as an industry, should be criticized for the actions of a small percentage of drum users.

We strongly object to one sentence in your editorial which reads: "Some shippers use only new packages; others use all sorts of junk."

These "others" to whom you refer include the bluebook of American industry—the finest oil, chemical, paint, food companies—who ap-

(Turn to Page 195)

B. J. Schoenberg, manager of the eastern division of U. S. Sanitary Specialties Corp., Chicago, receives a surprise birthday gift—a gold plated soap dispenser valve—from W. S. Jessop, president, as John Clark, also of U. S. Sanitary Specialties, looks on.





# liquid detergent

## RAW MATERIALS

Among the many synthetic liquid detergent raw materials offered by the Stepan Chemical Company, you are certain to find just the right characteristics for your use and price requirements. Our laboratory would, of course, be pleased to work with you on any particular problems you might have.

Many formulators find that the completeness of

the Stepan line of liquid detergent raw materials makes it readily possible to achieve substantial economies by ordering mixed truckloads or carloads effecting the lower carload price on all of the individual items.

A few of the products of particular interest in the Stepan line of liquid detergent raw materials are given below.

### DS-60

A specially processed, desalted, sodium alkyl aryl sulfonate. It is a high active slurry in an alcoholic solution and is an excellent and economical foaming, wetting and dispersing agent. In addition to its use in liquid dishwashing detergents, it is also an effective detergent for cotton, wool and synthetic fibers.

### LDA

A 100% active, fatty acid alkylolamide and nonionic in character. It provides superior foam stability, detergency, and gives good sudsing quality in the presence of grease. LDA is also noted for being a splendid thickening agent, and an auxiliary emulsifier helping to counteract the defatting action of alkyl aryl sulfonates.

### B-153

An ethoxylated nonyl phenol sulfate, 60% active. It is a clear amber liquid with a mild, pleasant alcohol odor. B-153 gives a high and closely knit flash foam to liquid dishwashing detergents. It is also a good auxiliary detergent and is relatively mild to the skin.

### NP-10

A 100% active ethoxylated nonionic. It imparts excellent grease emulsification to liquid dishwashing detergents and makes possible better drainage, helping to eliminate film. Among its other advantages NP-10 can aid in lowering the cloud point of a liquid detergent formulation.

WRITE FOR COMPLETE INFORMATION

# STEPAN

CHEMICAL COMPANY

20 North Wacker Drive • Chicago 6, Illinois

Telephone: CEntral 6-5511

Dimethyl Sulfoxide • Fatty Alcohol Sulfates • Bulk Liquid Detergents • Sulfonated Oils • Amides • Foam Stabilizers • Alkylphenol Polyalkoxy Sulfates

# Detergents for Petroleum Displacement

By R. T. Johansen, H. N. Dunning, and Jeanne W. Beaty

Surface Chemistry Laboratory, Petroleum Experiment Station  
Bureau of Mines, Bartlesville, Okla.

**A** COMPREHENSIVE production research program, currently in progress at the Petroleum Experiment Station of the Bureau of Mines at Bartlesville, Okla., includes studies of the displacement of petroleum by detergent solutions. An earlier report<sup>(3)</sup> presented the results of an extensive research program on detergents as flood-water additives. This report presents later results of the detergent-testing program. Although water-flooding methods and controls are constantly being improved and water flooding accounts for much of the oil produced in secondary-recovery operations, considerable crude oil commonly remains in place after a water flood has been terminated. Therefore, the possibility of improving the efficiency of a water flood by the use of detergents is of increasing interest.

The effects of many substances on the efficiency of water flooding have been investigated in laboratory studies.<sup>(1,9,11,13)</sup> Of the various substances tested, only surface-active agents were consistently effective in removing oil from sand. Results of laboratory studies presented in an earlier paper<sup>(3)</sup> and in other reports<sup>(4,10,11,12)</sup> show that many detergent solutions effectively displace petroleum from sand surfaces under varying conditions such as centrifuging, manual and mechanical agitation, ultrasonic vibration, and imbibition.

In general, laboratory studies show that solutions of detergents

displace oil from consolidated porous media more efficiently than water.<sup>(1,14)</sup> However, the relative efficiencies of detergent solutions in such tests are quite sensitive to operating conditions. Early field tests have indicated the value of detergents as floodwater additives but have not been entirely conclusive.<sup>(2)</sup>

The efficient removal of crude oil from solid surfaces is essentially a problem of detergency. Although the detergent problem is only one of many problems in efficient petroleum production, it is vital in reservoirs that are partly or wholly hydrophobic (preferentially oil-wet). Because the centrifugal test<sup>(3,11)</sup> developed for the rapid determination of detergent efficiency in the petroleum-sand system is being used by several laboratories, a comprehensive study was made of test variables.<sup>(4)</sup> Displacement efficiencies of 80 detergents were tested and discussed in earlier reports.<sup>(3,11)</sup> Displacement efficiencies, surface tensions at various concentrations, and cloud points of 105 other detergents are listed in this report and correlated with their chemical composition, detergent type, and content of inorganic builders.

## Materials

**S**YNTHETIC Oil Sand.—The sand samples were prepared by putting 25 grams of Ottawa III sand into a standard Babcock cream testing tube. With the aid of a burette, 2.7 ml. of Oklahoma City Wil-

cox crude oil was added to the sand. The tube was shaken until the sand and oil were completely mixed and then allowed to stand for 20 hours. This was the optimum time of contact found during the study of the test.<sup>(4)</sup>

**Sand.**—Ottawa III sand was chosen because it was readily available in the quantity necessary for the study of a large number of detergents. The grain size of the sand was 40-to 70-mesh, and the surface area was 73 cm.<sup>2</sup>/per gram as measured by the sieve method.<sup>(4)</sup> The sand was cleaned by successively washing it with tap water, distilled water, and acetone and drying it at 110°C. until it would flow freely. A comprehensive study of variables of the centrifugal displacement test<sup>(4)</sup> showed that the use of this sand with the selected oil saturation gave results comparable to those obtained with another sand in the previous test.<sup>(3)</sup>

**Crude Oil.**—Oklahoma City Wilcox crude oil which had been “topped” at 50°C. to remove the volatile components was used throughout this test. This treatment reduced evaporation during the test. The sample was obtained from the same well as the sample used previously.<sup>(3)</sup> Properties of the original and “topped” crude oil are shown in Table 1.

**Detergents.**—Detergents are divided into three types according to their ionization products. If the oil-soluble part of the molecule forms a positive ion, the detergent

is classed as cationic; conversely, an anionic detergent forms oil-soluble ions that are negatively charged. The nonionic detergents do not ionize but owe their solubility in water to the polar groups in the hydrophilic side chain. The 105 detergents listed comprised 12 cationic, 22 anionic, and 71 nonionic detergents.

Solutions were prepared from the detergents in the form in which they were received from the manufacturers. Some of the detergent formulations contain inorganic substances such as the polyphosphates, borax, and carbonates, which enhance the effectiveness of the detergent. Consequently, detergents thus formulated are commonly referred to as "built" detergents.

The relative displacement efficiencies, surface tensions at three concentrations, and cloud points were determined for solutions of these detergents and are reported in Table 2, together with the detergent type, percent active ingredient, physical form, and composition.

### Experimental Methods

**CENTRIFUGAL Displacement Test.**—Twenty-five grams of Ottawa III<sup>(4)</sup> sand was weighed into a 50-ml. Babcock cream testing tube (National Bureau of Standards specifications for ASTM standard method). Then 2.7 ml. of topped crude oil was transferred into the tube with a burette, taking care to prevent the oil from getting on the neck of the tube. When the required number of samples were prepared, they were agitated until the oil was dispersed evenly throughout the sand. The oil and sand samples were allowed to stand for 20 hours before use.

Displacement efficiencies of the detergents were determined with 0.1 wt. percent (1,000 p.p.m.) solutions. The tubes were filled with detergent solutions or water to a reference mark high on the neck of the tube. Triplicate tests were performed on groups of eight samples in which one contained water as a standard. After the initial centrifug-

Table 1.—Properties of Oklahoma City Wilcox Crude Oil.

	Density at 25°C.	Viscosity at 25°C., cp.
Original	0.833	7.04
Topped	.847	9.78

ing period of five minutes, the height of the liquid was adjusted by adding small amounts of the solution being tested. The tubes were rebalanced and then centrifuged for 15 minutes. After this centrifuging the tubes were removed from the centrifuge, tilted to about 45 degrees, swirled gently to release any trapped oil droplets, and centrifuged for another five minutes. This treatment was repeated four times, and after each centrifuging the quantity of oil displaced from the sand was read directly from the calibration marks on the neck of the tube. Although the quantity of oil displaced remained constant after about two centrifugings, the above procedure was used to insure that equilibrium was attained.

An International centrifuge, size 1, model SB, operated at 2,000 r.p.m., was used throughout these tests. The radial distance from the center of the shaft to the top of the sand sample was 17.0 cm. Under these conditions of operation, the sample was subjected to a force 770 times that of gravity. The difference in pressure between the oil and aqueous phases was equivalent to 19 inches of mercury. Slobod et al.<sup>(5)</sup> have described and discussed the applications of the centrifuge to the testing of reservoir materials. **Surface-Tension Measurements.**—The surface-tension values at 25°C. were determined by the du Nouy ring method for solutions of three different concentrations—0.01 percent, 0.1 percent, and 1.0 percent by weight or 100, 1,000, and 10,000 p.p.m., respectively. For solutions not soluble to the extent of one percent, the one-percent solution was prepared, dispersed by shaking, and diluted as though the detergent were soluble. Surface-tension values then were determined for the resulting solutions. A platinum ring

4.00 cm. in circumference was used, and an empirical correction factor of 0.93 was applied to obtain values for the absolute surface tension.<sup>(3)</sup> The temperature of the solutions was maintained constant during the measurement by a combination thermostat - elevating platform.<sup>(6)</sup> **Cloud-Point Measurements.**—The cloud points of one-percent detergent solutions were determined with a TAG thermometer calibrated at 0° and 25°C. Because of their wide variety many of the detergents tested did not have measurable cloud points between 0° and 100°C. The cloud points of the detergent solutions exhibiting this phenomenon were easily discerned and quite reproducible. Some of the cloud-point determinations were repeated, using 0.1-percent solutions, and only a slight change was observed. This is in agreement with earlier results<sup>(3,11)</sup> and previous reports.<sup>(7,8)</sup>

### General Considerations

**A** BRIEF discussion of the principles governing the displacement from a solid surface of one liquid by another was presented in an earlier report.<sup>(3)</sup> Of the large number of flood-water additives tested,<sup>(1,9,11,14)</sup> water-soluble, surface-active agents consistently have been the most effective in increasing petroleum displacement. These agents have the inherent disadvantage of being strongly adsorbed at the rock interface. Recent developments in the applications of chromatographic theories to petroleum production<sup>(12,16)</sup> indicate that adsorption remains an important, although not necessarily insurmountable, difficulty.

Some industrial detergent baths contain no organic surface-active agents. A common type of such bath contains a mixture of alkaline silicates and phosphates.<sup>(15)</sup> Accordingly, the petroleum-displacement efficiencies of some typical examples of these inorganic substances have been determined. These substances are more commonly used as "builders" in formulations with organic surface-active agents. Such

TABLE 2.--Displacement Efficiencies and Properties of Detergents  
25 gr. Ottawa #11 Sand, 25° C., 2,000 r.p.m.  
2.7 ml. Oklahoma City Brinck Crude Oil

Line No.	Detergent designation	Manufacturer	Composition	S			Cloud point	Displacement dev.-line No.	
				Active ingredient	Type	Form	Surface tension (dynes/cm.)	0.01% efficiency	
1	Airosol E	Airose Chemical Co.	Fatty alkyl amide condensate	100	Nonionic Liquid	28.7	27.4	52.0	Clear 1.08 .001 1
2	Airosol	Airose Chemical Co.	Fatty alkyl amide condensate	87	Nonionic Liquid	28.2	27.6	26.0	Clear 1.26 .012 2
3	Airosol O	Airose Chemical Co.	Fatty alkyl amide condensate	100	Nonionic Liquid	28.7	28.4	32.2	Cloudy 1.25 .020 3
4	Amine C	Airose Chemical Co.	Fatty imidazoline	85	Cationic Paste	25.9	26.2	35.1	Cloudy 1.31 .012 4
5	Nonsol 100	Airose Chemical Co.	Polyethylene glycol ester of lauric acid	100	Nonionic Liquid	30.9	32.2	36.0	>100° C. 1.26 .012 5
6	Nonsol 200	Airose Chemical Co.	Polyethylene glycol ester of oleic acid	100	Nonionic Liquid	32.8	33.8	36.9	80° C. 1.28 .017 6
7	Nonsol 210	Airose Chemical Co.	Polyethylene glycol ester of oleic acid	100	Nonionic Liquid	30.5	30.9	36.6	Cloudy 1.23 .012 7
8	Nonsol 250	Airose Chemical Co.	Polyethylene glycol ester of oleic acid	100	Nonionic Paste	34.6	35.9	42.0	95° C. 1.26 .012 8
9	Nonsol 300	Airose Chemical Co.	Polyethylene glycol ester of stearic acid	100	Nonionic Paste	30.3	33.5	41.9	Cloudy 1.27 .030 9
10	Sesquiterpane Naa	Airose Chemical Co.	Tetra sodium salt of ethylenediamine tetra acetic acid	100	Anionic Powder	57.8	65.9	67.6	Clear 1.25 .020 10
11	Aerosol AV	American Cyanimid	Diamyl sulfo succinic acid	100	Anionic Paste	26.0	44.0	58.1	Clear 1.07 .012 11
12	Aerosol OT	American Cyanimid	Diocetyl sod-sulfo succinic acid	100	Anionic Paste	25.0	29.3	44.6	0° C. 1.24 .012 12
13	Ethofat C-25	Armour & Co.	Coco fatty acid	100	Nonionic Paste	34.1	34.7	39.2	70° C. 1.29 .028 13
14	Ethofat C-60	Armour & Co.	Coco fatty acid	100	Nonionic Paste	41.2	42.0	44.5	Clear 1.28 .017 14
15	Ethofat 60-80	Armour & Co.	Stearic acid	100	Nonionic Paste	43.9	44.4	47.8	Clear 1.28 .040 15
16	Ethofat 140-25	Armour & Co.	Red oil fatty acid	100	Nonionic Liquid	35.6	38.7	41.6	80° C. 1.27 .035 16
17	Ethofat 240-25	Armour & Co.	70% resin fatty acid	100	Nonionic Liquid	35.5	38.3	41.2	40° C. 1.23 .058 17
18	Ethofat 250-50	Armour & Co.	70% resin fatty acid	100	Nonionic Paste	40.6	40.8	46.3	80° C. 1.21 .036 18
19	Ethofat 142-60	Armour & Co.	Red oil fatty acid	100	Nonionic Paste	41.3	43.9	48.0	90° C. 1.21 .017 19
20	Ethothenone S-20	Armour & Co.	Soybean amine	100	Cationic Liquid	36.1	36.8	39.7	80° C. 1.25 .017 20
21	Ethothenone 18-25	Armour & Co.	Stearyl amine	100	Cationic Paste	37.9	38.5	40.4	Clear 1.26 .012 21
22	Ethothenone 18-60	Armour & Co.	Stearyl amine	100	Cationic Paste	44.5	45.8	50.6	Clear 1.22 .022 22
23	Ethothenone S-25	Armour & Co.	Stearyl amine	100	Cationic Liquid	37.7	36.9	41.1	Clear 1.26 .012 23
24	Ethothenone S-60	Armour & Co.	Stearyl amine	100	Cationic Paste	43.0	45.0	51.9	Clear 1.22 .017 24
25	Armac 12-D	Armour & Co.	Acetic acid salt of dodecyl and tetradecyl amine	100	Cationic Paste	31.8	32.9	41.2	Clear 1.08 .012 25
26	Armac CD	Armour & Co.	Acetic acid salt of dodecyl and tetradecyl amine	100	Cationic Paste	30.0	27.0	35.0	Clear 1.09 .012 26
27	Arousal S	Armour & Co.	Alkyl trimethylammonium chloride	30	Cationic Liquid	35.5	35.8	45.7	Clear 1.11 .017 27
28	Arousal C	Armour & Co.	Alkyl trimethylammonium chloride	30	Cationic Liquid	32.4	33.4	48.5	Clear 1.09 .038 28
29	Arousal 20 <sup>1</sup>	Atlas Powder Co.	Dialkyl dimethylammonium chloride	75	Nonionic Liquid	27.0	29.9	34.9	Cloudy 1.12 .038 29
30	BRTJ 30	Atlas Powder Co.	Polyoxyethylene lauryl ether	100	Nonionic Liquid	27.4	27.8	29.3	80° C. 1.27 .026 30
31	SPAM 20	Atlas Powder Co.	Sorbitan monolaurate	100	Nonionic Liquid	25.9	29.8	34.7	20° C. 1.21 .017 31
32	SPAM 80	Atlas Powder Co.	Sorbitan monolaurate	100	Nonionic Liquid	26.8	29.2	31.5	Cloudy 1.19 .012 32
33	G-9445-N	Atlas Powder Co.	Polyoxyethylene sorbitan monolaurate	100	Nonionic Liquid	36.5	39.3	40.3	80° C. 1.27 .001 33
34	NHO	Atlas Powder Co.	Glycerol monostearate	100	Nonionic Liquid	25.7	25.9	28.6	Cloudy 1.22 .026 34
35	G-7598-H	Atlas Powder Co.	Polyoxyethylene sorbitan dilaurate	100	Nonionic Liquid	31.0	31.0	36.6	80° C. 1.29 .017 35
36	Versene Regular	Berswartz	Tetra sodium salt of ethylene diamine tetra acetic acid	34	Anionic Liquid	66.7	66.7	67.1	Clear 1.26 .038 36
37	Tergitol Dispersant NP-2	Carbide & Carbon	Alkyl phenyl ether of polyethylene glycol	95	Nonionic Liquid	32.7	32.4	32.2	80° C. 1.30 .026 37
38	Tergitol Dispersant TD	Carbide & Carbon	Alkyl polyglycol ether	95	Nonionic Paste	28.3	28.5	30.7	80° C. 1.30 .026 38
39	Tergitol Dispersant NP-14	Carbide & Carbon	Alkyl phenol ether of polyethylene glycol	95	Nonionic Liquid	29.7	29.7	29.7	Cloudy 1.30 .026 39
40	Tergitol Dispersant NP-27	Carbide & Carbon	Alkyl phenol ether of polyethylene glycol	95	Nonionic Liquid	30.8	30.9	30.8	10° C. 1.29 .029 40
41	Tergitol Dispersant NP-35	Carbide & Carbon	Alkyl phenol ether of polyethylene glycol	95	Nonionic Liquid	37.3	37.2	40.3	>100° C. 1.30 .026 41
42	Tergitol Dispersant XC	Carbide & Carbon	Alkyl ether of polyethylene glycol	100	Nonionic Paste	32.8	35.2	40.1	90° C. 1.30 .026 42
43	Tergitol Dispersant TM	Carbide & Carbon	Triethyl monyl ether of polyethylene glycol	25	Anionic Liquid	25.5	26.0	26.0	80° C. 1.30 .026 43
44	Tergitol Penetrant 4	Carbide & Carbon	Methyl ethyl hexadecyl sodium sulfate	25	Anionic Liquid	32.4	49.1	60.9	Clear 1.038 .012 44
45	Tergitol Penetrant 6B	Carbide & Carbon	Ethyl hexyl sodium sulfate	38	Anionic Liquid	39.6	65.8	65.8	Clear 1.02 .024 45
46	Tergitol Penetrant EK	Carbide & Carbon	Ethyl hexyl sodium sulfonate	25	Anionic Liquid	40.1	57.8	66.1	Clear .98 .064 46
47	Tergitol Wetting Agent 7	Carbide & Carbon	di-Ethyl nonyl sodium sulfate	25	Anionic Liquid	26.8	38.4	48.4	Clear 1.17 .017 47
48	Tergitol Wetting Agent P-20	Carbide & Carbon	di-Ethyl hexyl sodium phosphate	25	Anionic Liquid	31.7	43.7	53.0	Cloudy 1.13 .020 48
49	Tergitol Penetrant 7	Carbide & Carbon	Sodium sulfated alcohol	25	Anionic Liquid	38.5	38.2	37.5	Cloudy 1.21 .036 49
50	RLS 2068 - 182	General Aniline Film Corp.	Polyoxyethylene alkyl phenol	100	Nonionic Liquid	33.1	33.1	32.8	80° C. 1.29 .017 50
51	RLS 3088 - 218	General Aniline Film Corp.	Polyoxyethylene alkyl phenol	100	Nonionic Liquid	34.4	34.6	34.2	80° C. 1.30 .026 51
52	RLS 2082 - 184	General Aniline Film Corp.	Polyoxyethylene alkyl phenol	100	Nonionic Liquid	34.5	35.8	36.2	>100° C. 1.30 .001 52
53	RLS 3086 - 217	General Aniline Film Corp.	Polyoxyethylene alkyl phenol	100	Nonionic Paste	37.6	37.7	37.5	>100° C. 1.27 .001 53
54	Igepal CO-980	General Aniline Film Corp.	Polyoxyethylene alkyl phenol	99	Nonionic Paste	41.5	41.9	46.7	>100° C. 1.24 .017 54
55	Igepal CO-930	General Aniline Film Corp.	Polyoxyethylene alkyl phenol	99	Nonionic Liquid	29.3	29.4	29.6	< 0° C. 1.26 .017 55
56	RLS 3086-90	General Aniline Film Corp.	Polyoxyethylene alkyl phenol	99	Nonionic Paste	29.8	29.8	30.5	70° C. 1.28 .026 56
57	Igepal CO-430	General Aniline Film Corp.	Polyoxyethylated alkyl phenol	99	Nonionic Liquid	26.6	26.9	29.3	< 0° C. 1.22 .017 57
58	Igepal CO-730	General Aniline Film Corp.	Polyoxyethylated alkyl phenol	99	Nonionic Liquid	35.3	35.7	35.6	>100° C. 1.30 .026 58
59	Igepal CO-850	General Aniline Film Corp.	Polyoxyethylated alkyl phenol	99	Nonionic Paste	37.6	38.1	40.3	>100° C. 1.24 .017 59
60	Igepal CO-710	General Aniline Film Corp.	Polyoxyethylated alkyl phenol	99	Nonionic Liquid	32.0	31.8	31.7	70° C. 1.29 .026 60
61	Exp. no. 226-264A	General Aniline Film Corp.	Igepal CD-500 plus basic builder	15	Nonionic Power	20.7	30.1	35.2	70° C. 1.30 .026 61
62	Exp. no. 226-254B	General Aniline Film Corp.	Igepal CD-630 plus basic builder	15	Nonionic Power	32.7	32.6	41.7	80° C. 1.31 .012 62
63	Exp. no. 226-249C	General Aniline Film Corp.	Igepal CD-710 plus basic builder	15	Nonionic Powder	33.9	34.6	44.8	80° C. 1.31 .001 63
64	Exp. no. 226-264D	General Aniline Film Corp.	Igepal CD-850 plus basic builder	15	Nonionic Powder	37.7	38.4	48.6	100° C. 1.31 .012 64
65	Exp. no. 226-264E	General Aniline Film Corp.	Igepal CD-710 plus Borax	15	Nonionic Powder	34.4	34.6	48.4	80° C. 1.31 .017 65
66	Synthetics B-62	Hercules Powder Co.	Polyoxyethylated alcohol	100	Nonionic Liquid	33.6	35.8	36.2	>100° C. 1.30 .001 66
67	Synthetics C-25	Hercules Powder Co.	An ethylene oxide condensate of hydroxyethyl alcohol	100	Nonionic Paste	33.6	33.7	34.1	< 0° C. 1.29 .017 67
68	Synthetics D-37	Hercules Powder Co.	An ethylene oxide condensate of hydroxyethyl alcohol	100	Nonionic Paste	33.6	33.7	34.0	80° C. 1.29 .017 68
69	Synthetics D-52	Hercules Powder Co.	An ethylene oxide condensate of hydroxyethyl alcohol	100	Nonionic Paste	34.3	34.5	34.9	90° C. 1.29 .017 69
70	Synthetics E-80	Hercules Powder Co.	Synthetics D-37 plus outliers	20	Nonionic Power	34.6	35.0	43.5	>100° C. 1.20 .020 70
71	Synthetics AF-10X	Hercules Powder Co.	Polyoxyethylene glycol ether of an alkylated phenol	100	Nonionic Liquid	30.8	30.8	30.8	80° C. 1.29 .008 71
72	Amine ODT	Monsanto Chemical Co.	Substituted Polyanine	95	Nonionic Liquid	27.2	27.9	33.2	< 0° C. 1.07 .012 72
73	Santonene No. 1	Monsanto Chemical Co.	Alkyl aryl sodium sulfonate	100	Anionic Flakes	29.6	31.5	34.4	Clear 1.26 .024 73
74	Santonene D	Monsanto Chemical Co.	Aliphatic Polyoxylethylene ether	100	Nonionic Liquid	27.3	27.2	27.9	40° C. 1.29 .001 74
75	Steros AJ	Monsanto Chemical Co.	Polyoxyethylene thioether	100	Nonionic Liquid	29.6	29.4	31.2	40° C. 1.28 .017 75
76	Steros SE	Monsanto Chemical Co.	Polyoxyethylene thioether	100	Nonionic Liquid	26.9	28.9	29.3	2° C. 1.26 .017 76
77	Steros SK	Monsanto Chemical Co.	Substituted Polyanine	100	Nonionic Liquid	27.7	29.1	34.5	120° C. 1.33 .017 77
78	Santonene KDT	Monsanto Chemical Co.	Decyl benzene sodium sulfonate	100	Anionic Powder	32.5	31.2	60.0	Clear 1.18 .017 78
79	Santonene D	Monsanto Chemical Co.	W/M alkylphenolpolyoxyethylene ether plus builders	100	Anionic Powder	30.8	31.5	35.9	60° C. 1.31 .012 79
80	KM-2	Ornitone Chemical Co.	Sodium metasilicate pentahydrate	100	Anionic Powder	67.4	67.3	65.9	Clear 1.26 .012 80
81	Melso Granular	Philadelphia Quartz Co.	Sodium silicate	100	Anionic Powder	59.8	60.3	67.5	Clear 1.22 .017 81
82	Silicate of Soda D	Philadelphia Quartz Co.	Sodium silicate	100	Anionic Powder	56.1	65.0	67.8	Clear 1.20 .001 82
83	Silicate of Soda N	Philadelphia Quartz Co.	Sodium silicate	100	Anionic Powder	67.1	62.9	67.4	Clear 1.24 .012 83
84	Silicate of Soda RU	Philadelphia Quartz Co.	Tetra sodium salt of ethylene diamine tetra acetic acid	35	Anionic Liquid	67.4	67.4	67.9	Clear 1.17 .038 84
85	Peraa Kleer 50	Refined Products Corp.	Tetra sodium salt of ethylene diamine tetra acetic acid	47	Anionic Liquid	67.6	67.6	67.7	Clear 1.17 .023 85
86	Peraa Kleer 80	Refined Products Corp.	Triton X-45 plus polyphosphate	100	Nonionic Powder	28.5	29.6	43.2	Cloudy 1.22 .001 86
87	CG-291-A	Rohs & Haas	Triton X-14 plus polyphosphate	100	Nonionic Powder	29.0	31.6	47.7	Cloudy 1.31 .012 87
88	CG-291-B	Rohs & Haas	Triton X-100 plus polyphosphate	100	Nonionic Powder	30.4	32.7	49.3	Cloudy 1.31 .012 88
89	CG-291-C	Rohs & Haas	Triton X-14 plus polyphosphate	5	Nonionic Powder	29.8	33.8	50.8	Cloudy 1.31 .012 89
90	Triton X-9x-152	Rohs & Haas	Methyldodecylbenzyl trimethyl ammonium chloride	50	Cationic Liquid	31.7	35.1	54.3	Clear 1.04 .017 90
91	Triton X-114	Rohs & Haas	Diobutyl phenoxyl ethyl dimethyl benzyl ammonium chloride	99	Cationic Powder	34.9	32.2	52.0	Clear 1.10 .017 91
92	OPE-A-40	Rohs & Haas	Sodium naphthalene sulfonic acid	91	Anionic Powder	67.6	67.1	66.9	Clear 1.00 .036 92
93	W/M-218	Rohs & Haas	Modified anthracite glycerol alkylresin	77	Nonionic Liquid	31.6	42.4	63.8	Cloudy 1.19 .012 93
94	Triton X-9x-156	Rohs & Haas	Sodium salt of alkyl aryl polyether sulfate	30	Anionic Liquid	28.5	28.9	34.4	Cloudy 1.15 .026 94
95	Triton X-770 concentrate	Rohs & Haas	Polyoxyethylated octyl phenol	100	Nonionic Liquid	29.6	33.9	52.5	100° C. 1.28 .017 95
96	Triton X-114	Rohs & Haas	Polyoxyethylated octyl phenol	100	Nonionic Liquid	40.4	30.2	41.3	>100° C. 1.20 .029 96
97	OPE-A-40	Rohs & Haas	Polyoxyethylated octyl phenol	98	Nonionic Liquid	29.0	28.3	37.1	90° C. 1.28 .036 98
98	W/M-218	Rohs & Haas	Universal Detergents	98	Anionic Powder	30.4	31.6	31.6	Clear 1.15 .026 98
99	Petro-F	Rohs & Haas	Alkyl aryl sulfonate	100	Nonionic Flakes	34.1	40.5	50.9	Clear 1.21 .017 99
100	Pluronics F-88	Rohs & Haas	Ethylen oxide condensate of polyoxypropylene	100	Nonionic Liquid	37.7	40.3	43.8	50° C. 1.28 .024 100
101	Pluronics L-64	Rohs & Haas	Ethylen oxide condensate of polyoxypropylene	100	Nonionic Liquid	37.0	39.2	43.4	50° C. 1.27 .028 101
10									

builders are especially important to the detergents action of anionic detergents. Virtually all commercially available household detergents and industrial baths for fabric washing are mixtures containing organic surface-active agents and inorganic builders. Previous work showed that pure anionic detergents were not very efficient in the petroleum-sand system but that built formulations of these detergents were quite effective.<sup>(3)</sup>

Synthetic nonionic detergents with a wide variety of composition and properties recently have become commercially available. The centrifugal displacement method<sup>(3,4,11)</sup> and other studies with unconsolidated and consolidated sand<sup>(1,14)</sup> indicate these to be most promising. Unlike the anionics, these detergents do not require builders for efficient oil displacement or general detergency. The solubility and detergents action of the anionic detergents in salt water are increased by the addition of a nonionic detergent.<sup>(17)</sup> Builders have not been used widely with nonionic detergents. However, such formulations would seem particularly applicable in petroleum production. Displacement efficiencies of built nonionic formulations containing 10 to 20 percent active ingredients are comparable to those of the pure nonionics except at very low concentrations.<sup>(4)</sup> The use of such builders may lower the cost of detergent additives considerably because of the lower market price of the inorganic compounds. Furthermore, the polyphosphates already are used widely in the treatment of flood water. Certain of the complex phosphates are highly efficient in inhibiting the precipitation of calcium carbonate and sulfate<sup>(18)</sup> and probably, but not necessarily, other insoluble bivalent compounds.

If petroleum production is to be increased, the oil must be expelled from the reservoir rock as well as displaced from reservoir surfaces. The ability of a detergent solution to displace petroleum from reservoir surfaces is a primary re-

quirement if the detergent is to aid in a more complete petroleum recovery. This may not be the only requirement as more thorough displacement of petroleum may not necessarily result in more complete petroleum recovery because drops of oil, although displaced from reservoir surfaces, may remain lodged in the irregular openings of the porous medium. This point has been mentioned before,<sup>(3,11,12)</sup> but it is important enough to merit repetition. The effects of detergents on petroleum production in water-wet systems have been discussed recently.<sup>(14)</sup>

### Discussion of Results

DETERGENT solutions commonly reduce the interfacial tension between the oil and aqueous phase. This reduction in interfacial tension decreases the energy required to deform or to subdivide oil drops and may result in a more efficient water drive. The entrapment of oil drops, already displaced from the surface, is a function of the porous medium as well as the displacing fluid. The sand samples were swirled between periods of centrifuging to eliminate this entrapment. Although this procedure is not possible in actual water flooding, it was used because the objective of the test was to determine oil displacement from solid surfaces rather than the flow of oil through porous media.

The general behavior of the various types and kinds of detergents will be discussed rather than detailed displacement efficiencies of the individual detergents. The displacement efficiencies and other properties of the specific detergents are listed in Table 2. The displacement efficiency of a detergent is defined as the amount of oil displaced from the oil-sand mixture by the detergent solution compared to the amount displaced from a corresponding sample by distilled water. The individual method of sample preparation increases the precision over that obtained by batch preparation<sup>(4)</sup>. Individual

preparation of samples also eliminates gradual enrichment of oil in the sand, which occurred in the batch method. Also, it is more convenient to put dry sand into the narrow neck of the tube and to add the oil by means of a burette than to introduce the sticky oil-sand mixture into the tube.

A plot of surface tension versus displacement shows no direct correlation between the two when a variety of detergents of different chemical composition are compared. In general, the nonionic detergents have the highest displacement efficiencies and lowest surface tensions. The cationic and anionic detergents exhibit wide variations in displacement efficiencies and surface tension, the anionics being the more unpredictable. Some correlation between surface activity and displacement efficiency is evident for a series of detergents with similar hydrophobic groups prepared by the same manufacturer<sup>(11)</sup>. These observations corroborate results of earlier work in this laboratory, as well as conclusions by Cross<sup>(8)</sup>.

The interfacial tensions directly concerned with fluid displacement from solid surfaces are those at the water-sand and oil-sand interfaces. These cannot be measured directly by present methods but are reflected in the dual functions of contact angle and oil-water interfacial tension<sup>(3)</sup>. The oil-water interfacial tension is an important variable in oil displacement<sup>(22)</sup>.

Petroleum displacement should be more directly related to the interfacial tensions at the oil-water interface than to surface tensions. This relationship was observed with a typical series of polyoxyethylated alkyl phenols. The displacement of petroleum by imbibition of solutions of these detergents correlates even more closely with their interfacial-tension values than does the displacement efficiency<sup>(4)</sup>. Apparently, the higher emulsification capacities<sup>(11)</sup> of the short-chain types cause an increase in their displacement-efficiency values, as de-

(Turn to Page 79)



Well-known Chomé French floating soap of J. Chomé, Paris.

# FLOATING SOAPS

By F. V. Wells\*

**F**IRST gently warm the crutcher by admitting steam into the jacket, but do not make it excessively hot. The melted fat charge is run in at about 140°F and the agitator put in motion. The alkali may now be run in while the gear is revolving and this operation continued until signs of thickening appear. As soon as thickening is noticed, the gear may be stopped, the crutcher, (of the open type) well covered to keep the heat, and left undisturbed for 1½ to two hours or until, upon carefully lifting the cover, it is seen that the mass has become transparent. When this state

has been reached, saponification is well advanced, and the agitator may be started up again. If the mass is too thick to work, steam should be turned on, when the heat will thin out the soap sufficiently for the machinery to run freely. Crutting should be continued for 15 to 20 minutes, but longer if the soap shows streaks or patches of opaque, creamy matter. This is an emulsion of fat and alkali, which will gradually combine as soap and merge into the properly formed material until a uniform mass is obtained. It is at this period that any adjustment may be made to balance the soap.

A sample should be tested in the laboratory for uncombined matter in the form of fat, caustic and carbonate. The equivalent of glyceride in respect to free caustic, or fatty acids to take up the carbonate, may be added or, if the soap is weak, alkali should be added. If the alkali used in the original mixing was pure and fresh, the carbonate will be negligible, but low grades of caustic may contain much carbonate, which will register the full degrees on the hydrometer but will not combine with glyceride; as a result, one may find a weak (or fatty) soap with several percent of free carbonate. To remedy this, one must add sufficient caustic alkali to take up the

\*Editor, *Soap, Perfumery & Cosmetics*, London. Consultant-perfumer.

free glyceride, adjusting again later, if necessary, with fatty acids.

The nature and appearance of the soap in the crutcher will indicate to a certain extent if the balance is correct or not; the soap, if properly made, should, when finished, have a bright appearance, be transparent, and as the crutcher revolves, form wreaths of leaf-shaped clots. A portion taken up on a trowel should fall away freely, but not leave any dry patches on the tool. If the soap should fall completely away from the trowel or leave dry patches on it, then it is too strong in alkali. If very strong, the soap will appear thin, washy and opaque. If the crutcher contents at 145°F appear heavy and glutinous, however, forming ridges round the vessel, it will need alkali to thin it out; this alkali should be added at half the usual strength, being made up of equal parts of 66°Tw. lye and boiling water; cold alkali will form lumps in the batch, which are difficult to disperse.

It is most important to get the balance correct before framing the batch. A fatty soap will, when cold, be soft and smeary, will give a poor lather and rapidly turn rancid. A soap that is strong will be harsh to the touch and of "short" texture. (These are traditionally empirical signs observed by the old-style soap boiler.<sup>(8)</sup> The important thing nowadays is for the operative to get the "go ahead" sign as a result of efficient laboratory tests.)

After proper saponification, the finished soap paste has air crutched or injected into it, as described below in the section relating to full-boiled floating soaps. Framing and subsequent operations are carried out in the customary manner.

Most of the well-known books on soap manufacture contain a special section dealing with the production of boiled floating soaps, commencing with the selection of suitable stocks and then proceeding to a description of the boiling and finishing operations, aeration, solidification, cutting, pressing and pack-

aging. Comparison of these texts is of considerable interest and, coupled with a study of the relevant patents, can prove enlightening.

A blend of 65 to 75 percent tallow and 35 to 25 percent coconut oil is often recommended as a standard, though it is obvious that palm kernel, bleached palm, and various other oils, including hardened oils, can be used as substitutes. It is claimed in a British patent<sup>(9)</sup> that the ever-present problem of reduced lathering properties in floating soaps may be overcome if a portion of the normal toilet soap base is replaced by soda soaps derived from soybean, cottonseed, corn, castor or partially hydrogenated whale oils, these being termed "solubilizing soda soaps." The oils are described as being substantially free from glycerides having three or more double bonds and from fatty acids of such glycerides: they are, moreover, liquid at ordinary temperatures and have iodine numbers between 78 and 145. From 10 to 15 percent of such "solubilizing soda soaps" (e.g. soybean oil soap) has been found sufficient, calculated on a dry soap basis, but the optimum proportion of these additions is reasonably stated to depend on the question of titre. Addition of cottonseed and other oils and fatty acids to floating soap stock has likewise been recorded in the literature. It is nevertheless true to say that the oils and fats employed for making this type of soap generally contain a higher proportion of saturated fatty acids than is customary when making ordinary soap. Rosin and liquid sodium silicate (about two percent of either) may also be present.

Many years ago a German trade paper published two analyses of American floating soaps. Apart from showing specific gravities of 0.91 and 0.93, and volatile matter, as water, of 36 and 32 percent (105°C), these analyses also revealed the presence of 2.5 and 1.8 percent mineral oil respectively, as unsaponifiable matter. The author added the following comments:

"The unsaponifiable residue, which was oily in character, was easily recognized as mineral oil. The addition of the mineral oil to the soap was evidently for the purpose of giving the lather of the soap an oily feel, since while the soaps always have a fatty feel, the lather always feels quite dry. The mineral oil may be added to the stock before it is saponified or mixed with the saponified soap. Another method consists of making a soap which contains a large proportion of mineral oil and then adding suitable proportions of this soap to the kettle soap after it has been made. This latter method has the advantage that there is no disturbance or interference with the main saponification process, which might otherwise ensue."

### Additives

ALTHOUGH floating soaps normally contain a relatively low content of unsaponifiables (see Federal Specification), mineral oil is by no means the only additive that has been used with the object of improving consistency or texture. As much as 10 percent of wax was suggested in expired French patent 462,502; a proportion that, even in the case of a partly saponifiable wax, would seemingly be so high as to inhibit lathering altogether. Smaller additions of waxes have been recommended, as well as of caseinates, methyl cellulose, gums and gum substitutes—the latter having once been quoted as valuable for "preventing the formation of blisters on the surface of the cooled soap." Fatty amides might also prove useful as additives—but it is obvious that any such additions would have to be carefully thought out, subjected to experimental testing and used only in carefully controlled amounts.

Bleaching agents, stabilizers and antioxidants have to be considered in this context as for ordinary high-grade soap, but obviously the potentially modifying effect of dispersed air bubbles has to be kept specially in mind.

Saponification follows the

Table 2. (after Lambourn)

Analysis	Floating soap after crutching and neutralizing alkali	Original soap before crutching
	Percent	Percent
Soap { Fatty Acids	63.30	61.20
Combined Soda ( $\text{Na}_2\text{O}$ )	7.92	7.66
Free Caustic Soda ( $\text{Na}_2\text{O}$ )	0.04	0.08
Sodium sulphate and chloride	0.43	0.42
Water	28.31	30.64
Specific gravity	0.922	1.265

conventional pattern for a toilet soap base. Readers interested in the actual details of the boiling process are referred to the special chapters included in various books. In this connection I recommend the works of Thomssen and McCutcheon<sup>(7)</sup> and L. L. Lambourn.<sup>(10)</sup> Those by Levitt<sup>(11)</sup> and Geoffrey Martin<sup>(3)</sup> may also be consulted. Wigner's book on the chemical processes of soap manufacture<sup>(12)</sup> contains a very fine general description and analysis of soap boiling, as well as some useful chapters on glycerine recovery, which with this type of soap, having regard to the general high quality of the stocks used, is of considerable importance. Clean soap scrap from previous batches may be returned to the kettle at the strengthening stage.

The finished kettle soap, containing some 30 percent water, is next either partially dried to reduce the water content or pumped immediately to a storage tank or crutcher.

In some cases further neutralization and other refinements are carried out in the tank or crutcher rather than in the kettle itself—but, generally speaking, the next step is aeration. The simplest way of accomplishing this is to run the soap direct to the crutcher, which may be either a horizontal or a vertical steam-jacketed mixer equipped with paddles or a worm agitator. The design of the crutcher obviously assumes some importance at this stage, more particularly as most crutchers are made with a view

to working in only the minimum of air. For this purpose, the screw is generally run in reverse at a fairly high speed, the operator making sure that the liquid soap does not completely cover the screw.

In other words, the efficiency of the crutcher and of the crutching process must in this case be judged by the ease and rapidity with which they can be used to beat air into the soap. Special crutchers and mixing equipment can be built for the job, and some modifications in designs are essential where it is desired to inject compressed air into the mass by means of a pump. Expired German patent 246,479 (Kroning) described such a service for incorporating oxygen into a floating soap under pressure.

The temperature at which air-incorporation takes place is usually given as being between 175° and 185°F.

Excessively high temperatures lengthen the duration of the process detrimentally. It is desirable that the air itself should be warm and not drawn in cold from outside sources.

The actual duration of this aerating process depends on many factors, including the viscosity of the soap, the temperature of working, the design of the equipment, the size of the batch and, of course, the desired specific gravity of the finished soap. Thomssen and McCutcheon give a useful guide when they say that some makers prefer to set a definite crutching time, say 15 to 20 minutes, while others regu-

late the crutching so that the soap is ready for framing when the temperature drops to about 130°F. As they hasten to add, however, rigid adherence to such procedures will not assure a uniform density of the soap. A better method is to run off samples from time to time into a calibrated bucket, scraping off excess soap at the surface with a straight-edged metal scraper, and then weighing the contents. The specific gravity can be very promptly estimated by this simple computation of weight and volume. The specific gravity aimed at is usually 0.9 or slightly less, although it is technically possible to go well below this figure.

The following laboratory method of determining air in soap was devised by my colleague, the late Dr. J. H. Wigner.<sup>(13)</sup>

A 50-gram sample of the soap is placed at the bottom of a tall beaker, wide enough to hold comfortably an inverted funnel three inches in diameter. The stem of the latter is cut off about an inch from the cone, and it is then placed over the soap. Well boiled distilled water is filled into the beaker to about three-quarters of its height, and the measuring vessel filled with water and placed over the stem of the funnel. One of the small tapering tubes used in the smallest type of laboratory centrifuge, and graduated up to 12 c.c., serves well for this purpose. The water in the beaker is now gently heated without disturbing it, and the soap gradually melts and then dissolves, while the bubbles of air pass into the small tube, where their volume is read off. The soap used for the test should be all in one piece, and may be trimmed into a roughly circular block in the process of adjusting it to weight; no great accuracy in weighing is essential. The results may be returned in c.c. of air per 100 grams of soap.

Other laboratory tests may be made by withdrawing samples, cooling and examining them for opacity, floating properties and internal structure.

Pigment, preservative and perfume are added at the crutcher stage. Soap colors may be added as dispersions in an aqueous soap solution. It should be remembered that the perfume has to resist high initial temperatures and prolonged contact with air and water. Many cold process-type perfume compositions are suitable, but special floating soap perfumes are marketed by most of the leading supply houses. The perfume oil should be added just before the conclusion of the aeration process.

The analysis of a floating soap shown in Table 2 gives comparative figures for the same soap before and after crutching. It should be noted that this soap was pre-mixed in a storage tank and then neutralized in the crutcher with fatty acid, boric acid, bicarbonate, etc., just prior to aeration.

#### Framing

THE aerated, perfumed and optionally tinted soap is now ready for dropping into frames or pumping to cooling presses. If the latter are used, they should be pre-warmed and no cooling water should be run in until the press is completely filled with soap. Subsequent stripping, cutting, slow drying, stamping into cakes and packaging, follow the usual pattern, except that every care is taken to avoid excessively high pressures.

During framing, this type of soap tends to sink in the center, leaving scrap clinging to the sides. Although clean scrap may be returned to the kettle, the quantity produced should be kept to a minimum either by using shallow frames or a cooling press, by running a long spatula round the edges of the solidifying soap, or by using a frame fitted with a reasonably heavy, adjustable top plate.

Floating soap should be dried more slowly and thoroughly than ordinary soaps, in order to keep distortion and subsequent discoloration to a minimum. The pressed cakes are sometimes sealed in waxed wrappers.<sup>(11)</sup>

Later developments to those outlined above relate particularly to the improvement of lathering properties by various means, the improvement of shape and stability by the drastic reduction of water content, and the introduction of more efficient means of mechanical aeration.

#### Flash Drying

IT is well known that flash dryers have found considerable application in the soap industry during recent years. Briefly, as described by John W. Bodman,<sup>(12)</sup> their operation involves pumping through a heated tube at a given temperature and pressure a continuous flow of liquid soap, which is discharged through an orifice of given size into a suitable receptacle or flash chamber. Properly controlled, this method of drying soap offers several advantages; such as lower initial cost of the equipment, smaller floor space for equipment, and lower steam consumption. There are also additional advantages, such as greater uniformity of moisture distribution through the dried soap and reduction of time consumed between the neat soap stage and its preparation for the milling step. Of similar interest in this connection is the E. T. Webb: Baker Perkins British patent 581,203, in which a hot liquid soap of about 30 percent water content is sprayed into a vacuum chamber: by suitable regulation, the water content of the soap may be reduced to 14 percent (for bars or flakes) or five percent (for powders.)

#### P & G Patent

ABOUT 14 years ago Procter & Gamble filed a patent relating to floating soaps, in which the kettle soap is heated, partially spray-dried under vacuum, continuously aerated, chilled and extruded. British patent 540,063 (Lever Bros. & Unilever Ltd.) refers to a soap that comes from the kettle with a moisture content of 30 percent, "which is reduced by any of the usual

(Turn to Page 79)

# SYNTHETIC DETERGENTS and Emulsifiers—Up to Date

Part IV. Conclusion

By John W. McCutcheon

# Synthetic Detergents . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Petrowet WN	E. I. du Pont de Nemours & Co.	Sodium alkyl sulfate	Wetting Emulsifying Detergent	Liquid	30%	Anionic	For wetting and penetrating in acid solution
Pex	Peck's Products Co.	A mixed alkyl aryl sulfonate and alkanolamide	Detergent	Liquid	30%	Anionic	An industrial cleaner
pHisoderm (3 types)	Winthrop-Stearns, Inc.	Sulfonated ether, etc.	Detergent	Liquid	Anionic	Sudsing fluid cream; soap-replacement detergents for special medical and surgical purposes; hypoallergenic	Antibacterial detergent; "pHisohex" contains 3% hexachlorophene (total weight basis)
pHisohex	Winthrop-Stearns, Inc.	"pHisoderm" with hexachlorophene	Detergent-Antibacterial	Liquid	45%	Anionic	A carboxylic acid ester sulfate; textile wetting agent, anti-foaming agent in printing industry; fat liquoring of leather
Phi-O-Sol. WA	Onyx Oil & Chemical Co.	A sulfated ester of a fatty acid	Wetting Detergent	Powder	Anionic	Cleaning of tanks and vessels; metal degreasing and paint stripping	
Planisol	Girdler Co.	Alkyl aryl sulfonate	Detergent	Liquid	100%	Nonionic	The molecular weights of the various "Pluronics" are as follows: L61—2000, L44—2200, L62—2500, L64—2900, P75—4000, F68—8000. "P75" is a paste. Dishwashing and laundry compounds, dye leveling, textile soaping-off, etc., "Pluronic L61" is a defoaming agent for soaps and synthetics. "Pluronic F68" is used as a detergent additive, and for dispersing, dye leveling, boiler descaling, etc.
Pluronic L61 L44 L62 L64 P75 F68	Wyandotte Chemicals Corp.	A condensate of ethylene oxide with a hydrophobic base formed by condensing propylene oxide with propylene glycol	Detergent Emulsifier Dispersant	Liquid Liquid Liquid Paste Flake			
Polyethylene Glycol esters of fatty acids	Carbide & Carbon Chemicals Co. Glyco Products Co. Emery Industries, Inc. Kessier Chemical Co., etc.	As in name	Emulsifier Dispersant	Liquid	100%	Nonionic	Not a trade name product, but given here for reference
Polyoxyethylene Oleate 480 Laureate 1060	Van Dyk & Co.	As in name	Detergent Emulsifier Lubricant	Liquid	98%	Nonionic	Acts as a solvent for dyes and as a dispersing agent for pigments
Polymerene G-24	Quaker Chemical Products Corp.	Fatty amide condensate	Detergent	Paste	37%	Anionic	Textile, synthetic detergent, scouring, stock lubricant, wetting out, soap, auxiliary, fuling woolen piece goods
Prell (retail) Prestabil Oil V	Procter & Gamble Co. Anilara Chemicals, a sales division of General Aniline & Film Corp.	Sulfonated fatty acid	Emulsifier	Liquid			Hair shampoo
Product BCO	E. I. du Pont de Nemours & Co.	Cetyl betaine	Detergent	Liquid			Acid and alkali stable sulfonated oil used as a dyeing assistant for wool and cotton; clarifying agent in viscose manufacture
Product BDO	E. I. du Pont de Nemours & Co.	Long chain betaine	Wetting	Liquid			This product is amphoteric being cationic in acidic and anionic in alkaline solutions. A textile agent for dye leveling, wool scouring, alkaline peroxide bleaching
Product QB	E. I. du Pont de Nemours & Co.	Quaternary ammonium salt	Wetting	Liquid	50%	Cationic	High solubility and surface activity in high concentration electrolyte solutions
Prollex	Glyco Products Co.	A modified protein	Emulsifier	Powder	90-92%	Anionic	Used in textile processing
Promulgen	Robinson-Wagner Co.	A polyethylene glycol ether of a high molecular weight fatty alcohol	Emulsifier	Solid	100%	Nonionic	Insoluble in mineral oils, hydrocarbons, alcohol, kerosene; water dispersible; an emulsifier for water paints
Purasan AD DC	Gallowhur Chemical Co.	Alkyl dimethyl benzyl ammonium chloride	Germicide	Liquid			Used in cosmetic and pharmaceutical preparations
							Used in sanitizing compounds in the dairy field, etc.

# Synthetic Detergents . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Purex Detergent Slurry	Purex Corp.	Dodecylbenzene sodium sulfonate	Detergent	Paste	40%	Anionic	Industrial product
Pyrolene	Standard Chemical Products, Inc.	Sulfonated fatty amide condensation product	Detergent	Liquid	34%	Anionic	Textile scouring agent
Pyronate	L. Sonneborn Sons, Inc.	A petroleum sulfonate of molecular weight 340/360	Wetting Dispersant	Liquid	62%	Anionic	A water soluble product for use as dispersant and as wetting agent in aqueous media
Pyrotex	Standard Chemical Products, Inc.	Sulfonated fatty amide condensation product	Detergent	Liquid	34%	Anionic	Textile dyeing assistant
Pyrotex 121	Standard Chemical Products, Inc.	Sulfonated fatty amide condensation product	Wetting Detergent	Paste	30%	Anionic	Textile boil off assistant; "Pyrotex 330" is a 50% active concentration.
Pyrotex 330		Sulfonated fatty amide condensation product	Wetting Dispersant	Liquid	50%	Anionic	Dispersing agent in paint formulations; emulsion polymerization and wetting agent in textile finishing baths
Quaker Dianol F50	Quaker Chemical Products Corp.	Sodium diethyl sulfosuccinate					
Quakester 437	Quaker Chemical Products Corp.	Complex glycol ester	Detergent	Liquid	100%	Nonionic	Industrial cleaners
Quaternary C O S	Geigy Industrial Chemicals Division, Geigy Chemical Corp.	Quaternized amine C, O, S	Detergent	Liquid	100%	Cationic	Solvent soluble; ore flotation, asphalt wetting, detergent-sanitizers
Quatralonyx	Onyx Oil & Chemical Co.	Alkyl dimethyl carboxy methyl ammonium chloride	Wetting Penetrant	Liquid	20%	Cationic	Stable in acid, alkali and high concentrations of salt; useful in electroplating
Regal	Armour & Co.	Alkyl aryl sodium sulfonate	Detergent	Flake Beads		Anionic	Textile, metal cleaning, compounding, fertilizer conditioning, household detergent, etc.
Renex 20	Atlas Powder Co.	Polyoxyethylene ester of mixed fatty and resin acids	Detergent	Liquid	100%	Nonionic	For compounding cleaning preparations and for textile processing; "Renex 25" is "Renex 48" plus urea to form a free flowing powder; useful for compounding with alkalies; a detergent for scouring and dye leveling agent in textiles; a detergent ingredient in dairy cleaners, sanitizers, dishwashing compounds, etc.
Renex 30	Atlas Powder Co.	A polyoxyethylene tridecyl alcohol	Wetting Dispersant	Liquid	100%	Nonionic	As a scouring and dye leveling agent in textile and hard surfaces.
Renex 35	Atlas Powder Co.	"Renex 30" plus urea	Detergent	Granular	50%	Nonionic	Recommended for the scouring of textile fibers
Repol A-100 A-20	Refined Products Co.	Modified fatty amine condensate	Detergent	Liquid	100%	Nonionic	Uses: as textile scouring agent, in car washing and dishwashing compounds; "Repol A-20" is a 25% active solution.
Resolin B Resolin N Conc.	Sandoz Chemical Works, Inc.	Modified fatty amine condensate	Emulsifier	Liquid	100%	Nonionic	Uses: agricultural sprays, textile emulsifier
Rexan O	Dexter Chemical Corp.	Alkylnaphthalene sulfonate Diethyl-sodium-sulfo-succinate	Wetting Rewetting	Paste	75%	Anionic	Textile Textile, paper, etc.
Rexobase PW	Emkay Chemical Co.	A polyoxyethylated fatty alcohol	Dispersant	Liquid			
Rexolene	Emkay Chemical Co.	Naphthenic derivatives	Emulsifier	Paste		Cationic	Emulsifiers for mineral oil and paraffin, respectively
Rexopene	Emkay Chemical Co.	Sulfonated oil with terpenes and solvents	Dispersant	Liquid		Anionic	Dispersing agent for acetate colors; dyeing assistant
Rexopon E Rexopon V	Emkay Chemical Co.	Sodium alkyl aryI sulfonate	Wetting Leveling	Liquid		Nonionic Anionic	Synthetic detergent Scouring; synthetic detergent
Rexoscour	Emkay Chemical Co.	Modified amide amine condensate Alkyl aryl sulfonate, sulfonated amide condensate	Detergent	Liquid Paste		Anionic	Detergent; kier boil assistant; fulling agent; desizing in continuous machines
		Blend of soaps, solvents, fatty acid amides, and admixtures and stabilized with mild alkalis	Detergent	Paste			

# Synthetic Detergents . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks	
Rexosolve —150	Emkay Chemical Co.	Emulsified blend of sulfonated oils, aliphatic high flash solvents and terpenes	Wetting	Liquid	Anionic	Scouring assistant; oil and grease remover		
Rexowet	Emkay Chemical Co.	Sulfonated isopropyl oleate	Wetting	Liquid Paste	Anionic	Wetting agent; dye dispersant		
Rexowet A	Emkay Chemical Co.	Sulfonated synthetic ester	Wetting	Liquid	Anionic	Goton penetrant and wetting-out agent		
Rexowet CR	Emkay Chemical Co.	Sulfonated isopropyl oleate and soluble cresylic acid	Penetrant	Liquid	Anionic	Low foaming penetrant for warp-sizing formulations		
Rexowet MS	Emkay Chemical Co.	Sodium alkynaphthalene sulfonate	Penetrant	Gel	Anionic	Wetting agent; leveler; penetrant; enzyme activator		
Rexowet RW	Emkay Chemical Co.	Highly sulfonated aliphatic mono- and di-esters	Wetting Rewetting Leveling	Detergent Sequestrant Dispersant	Anionic	Textile, degreasing Built all-purpose detergent		
Rinflors S	Sandoz Chemical Works, Inc.	Emulsifiable solvents	Wetting	Liquid Powder	Anionic	Similar to "Nullapon" or "Sequestrene" in type and use		
Rinso Blue (retail)	Lever Brothers Co.	An aromatic polyamino carboxylic acid salt	Sequestrant	Liquid	Anionic	Water spreader for fires, industrial cleaners, pickling baths		
RN-Water Softener A	Riches-Nelson Co.	Sodium alkyl aryI sulfonate	Dispersant	Powder	50%	Textile, degreas-		
RN-200	Riches-Nelson Co.	Alkyl dimethyl benzyl ammonium chloride	Wetting	Powder	75%	Anionic	Built all-purpose detergent	
Roccal	Sterwin Chemicals, Inc.	Germicide	Liquid	Liquid	10%	Cationic	Water spreader for fires, industrial cleaners, pickling baths	
Rodacide —A	Fairfield Laboratories	A 2.5% "Ethyl Cetab" plus nonionic detergent	Germicide Detergent	Liquid	2.5%	Cationic	A sanitizing agent; "Rodacide A" is a concentrated solution containing 25% "Ethyl Cetab" plus correct amount of nonionic detergent	
Rodalon	Fairfield Laboratories	Alkyl dimethyl benzyl ammonium chloride	Germicide	Paste	100%	Cationic	See "Octab" which is a longer chain derivative; also sold as a 50% active solution; sanitizing solution for dairies, restaurants, etc.	
Rodasuds 50	Fairfield Laboratories		Detergent	Liquid	50%	Nonionic	A nonionic detergent for use with a cationic germicidal agent (a 100% active material is also available.)	
Rueterg 97-S 57-M 40-U 40-T	Finetex, Inc.	Alkyl aryl sulfonate from "Neolene 400"	Detergent	Liquid	88%	Anionic	An emulsifier for pine oil, mineral oil, standard solvent, olive oil, etc. "Rueterg 57-M" is 42% active, "40-U" is 25% and "40-T" is 26%.	
Sandopan A Sandopan DTC	Sandoz Chemical Works, Inc. Sandoz Chemical Works, Inc.	Sulfated alcohols Sulfonated amide Modified ethylene oxide condensate Fatty ester	Detergent Detergent Wetting	Paste Liquid Liquid Soilstener	Anionic Anionic Anionic Nonionic	Textile Textile Textile Dyeing assistant	Textile, paper, leather, household and industrial cleaning; stable in 10% caustic soda solution	
Sandopan TFL Sandopan TN Sandopan W	Sandoz Chemical Works, Inc. Sandoz Chemical Works, Inc.	Sulfonated amide Modified ethylene oxide condensate Fatty ester	Dispersant Detergent Soilstener	Liquid Liquid Paste	Anionic Anionic Nonionic	Textile Textile Dyeing assistant	Durable effect with thermo-setting resins	
Sandoz KB Sandoz N	Sandoz Chemical Works, Inc. Sandoz Chemical Works, Inc.	Sulfonated oil Sulfonated fatty ester	Wetting Wetting	Liquid Liquid	Anionic Anionic	Textile Textile		
Sanidex M	Dexter Chemical Corp.	A sulfated oleic ester	Wetting	Liquid	60%	Anionic	A dye leveling and sanforizing assistant	
Sanforol 50	Standard Chemical Products, Inc.	Sulfonated ester	Wetting Rewetting	Wetting	Anionic	Textile finishing agent		
Santiol S	Charlotte Chemical Laboratories, Inc.	Aryl sodium sulfonate	Wetting	Anionic	Textile			
Santolube 374	Monsanto Chemical Co.	A mixed base	Emulsifier Dispersant	Liquid	Anionic	Not a detergent in the ordinary sense of the word, but functions as an emulsifier to keep water in suspension		

# Synthetic Detergents . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Santomerse 1 80	Monsanto Chemical Co.	Alkyl aryl sodium sulfonate	Detergent Wetting Powder Beads	40%	Anionic	Side chain is long, detergency high; "Santomerase 80" is an 80% active form of "Santomerase 1."	
Santomerse 3 Paste 3	Monsanto Chemical Co.	Alkyl aryl sodium sulfonate	Detergent Wetting Powder	100%	Anionic	Water-soluble to extent of 15%; also available as a 75% active paste; "Santomerase 3 Paste" is a 75% active solution of "Santomerase 3."	
Santomerse 30X	Monsanto Chemical Co.	Alkyl aryl sodium sulfonate	Detergent Liquid	25%	Anionic	Very acid and alkali stable; uses: general detergent and wetting agent for textiles	
Santomerse 43	Monsanto Chemical Co.	Amine salt of an alkyl aryl sulfonate	Emulsifier Wetting Detergent	100%	Anionic	Both water and oil soluble	
Santomerse D	Monsanto Chemical Co.	Decyl benzene sodium sulfonate	Emulsifier Wetting Detergent	100%	Anionic	Best of "Santomerase" group for lowering interfacial tension	
Santomerse KDT Santomerse S	Monsanto Chemical Co. Monsanto Chemical Co.	An alkylated alkylen polyamine	Liquid	99%	Anionic	Oil soluble wetting agent	
Santomerse TIB	Monsanto Chemical Co.	Alkyl aryl sodium sulfonate	Liquid	30%	Anionic	Water solution of "Santomerase D"	
Sapamine FLK	Ciba Co.	Alkenyl carboxylate	Wetting Powder	99%	Anionic	Not acid stable	
Sapamine KWC	Ciba Co.	Potassium salt of a complex organic acid	Softener Paste	99%	Anionic	Softening agent for textiles	
Sapamine MS Conc. MS	Ciba Co.	Quaternary ammonium compound	Softener Dispersant Emulsifier Foaming	99%	Cationic	Softening agent for textiles	
Sapamine WL	Ciba Co.	Quaternary ammonium compound	Wetting Softener Detergent	100%	Cationic	A cationic type wetting agent: "Sapamine MS" is a 10% active solution of "Sapamine MS Conc."	
Saponale	L. Sonneborn Sons, Inc.	Amino condensate	Wetting	33%	Cationic	Highly effective softening agent for all types of fibers	
Sarkosyl NL-100 NL-30 LC L S O	Geigy Industrial Chemicals Division, Geigy Chemical Corp.	A petroleum sulfonate, molecular weight 375/400	Emulsifier	62%	Anionic	Water soluble wetting and penetrating agent	
SD 50	Laurel Soap Mfg. Co.	Alkyl aryl amine	Detergent Wetting	50%	Anionic	Foam stabilizer, detergent, anti-corrosive agent emulsifiers, anti-enzyme in toothpaste	
SD 71 SD 200	Laurel Soap Mfg. Co. Laurel Soap Mfg. Co.	Sulfated ester	Liquid	100%	Anionic	Textile scour and wetting agent	
SD 75	Fire Organics, Inc.	Amine condensate	Detergent Wetting	100%	Anionic	Textile scour and wetting agent	
Sellogen Gel Sellogen Conc. Sellogen HR	Jacques Wolf & Co. Jacques Wolf & Co. Jacques Wolf & Co.	Alkenyl dimethyl ethyl ammonium bromide	Emulsifier	75%	Cationic	For algae control; the alketyl group is essentially 9-octadecenyl.	
Sellogen O-141	Jacques Wolf & Co.	Methyl taurine condensate	Wetting	18%	Anionic	Universal detergent; stable to acids and alkalis	
Sellogen O-245 Sellogen P	Jacques Wolf & Co. Jacques Wolf & Co.	Methyl taurine condensate	Wetting	35%	Anionic	Universal detergent; stable to acids and alkalis	
Sequestene A	Geigy Industrial Chemicals Division, Geigy Chemical Corp.	Sodium dialkyl naphthalene sulphonate	Emulsifier	40%	Anionic	Dispersing agent for insecticides; wetting agent in acid and alkaline mediums	
		A mixture of anionic and nonionic products	Wetting	85%	Anionic	A textile scouring and wetting agent	
		Fatty acid amide condensate	Wetting	100%	Nonionic	Textile scouring and dyeing	
		Sulfonated fatty alcohol	Wetting	30%	Anionic	A textile scouring and wetting agent	
		Tetra sodium ethylene diamine tetraacetic acid	Chelating agent	20%	Nonionic	Stabilizes foam and builds detergency for both soaps and syndets; synergist for quaternary ammonium and phenol germicides	

# Synthetic Detergents . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Sequestrene AA	Geigy Industrial Chemicals Division, Geigy Chemical Corp.	Ethylenediamine tetracetic acid	Chelating agent	Powder	100%	Anionic	A crystalline solid having a melting point of 200°C.; water soluble; may be neutralized to "Sequestrene A," or to the potassium or amine salts; fairly stable up to 200° C.
Sequestrene NA-2	Geigy Industrial Chemicals Division, Geigy Chemical Corp.	Technical pure disodium ethylene diamine tetra acetate dihydrate	Chelating agents	Solid	100%	Anionic	Solubility: 10% in water at room temperature; "Sequestrene NA-2" is dihydrate of the sodium salt; "NA-3," monohydrate of the sodium salt; "NA-4," the dihydrate of tetrabasic sodium salt; "NA-4" is same as "NA-4" in 80% active powder form.
Sequestrene NA-3	Geigy Industrial Chemicals Division, Geigy Chemical Corp.	Technical pure disodium ethylene diamine tetra acetate dihydrate	Chelating agents	Powder	100%	Anionic	"Sequestrene NA-2" is dihydrate of the sodium salt; "NA-3," monohydrate of the sodium salt; "NA-4," the dihydrate of tetrabasic sodium salt; "NA-4" is same as "NA-4" in 80% active powder form.
Sequestrene NA-4	Geigy Industrial Chemicals Division, Geigy Chemical Corp.	Technical pure disodium ethylene diamine tetra acetate dihydrate	Chelating agents	Powder	100%	Anionic	"Sequestrene NA-2" is dihydrate of the sodium salt; "NA-3," monohydrate of the sodium salt; "NA-4," the dihydrate of tetrabasic sodium salt; "NA-4" is same as "NA-4" in 80% active powder form.
Shampoo Base M	E. F. Drew & Co.	Modified coconut fatty acid amine condensate	Liquid	100%	Anionic	A shampoo base	
Shasta (retail)	Procter & Gamble Co.	Detergent	Paste	Anionic	Hair shampoo		
Silver Dust (retail)	Lever Brothers Co.	Detergent	Powder	Anionic	Built all-purpose detergent		
Sipamide	American Alcolac Corp.	Pure alkylamide	Foam stabilizer	Paste	100%	Nonionic	A foam booster for use in detergents
Sipex S	American Alcolac Corp.	Sodium salt of lauryl alcohol sulfate	Detergent	Paste	30%	Anionic	Rug cleaning, textiles, etc.
S/B	American Alcolac Corp.	Ammonium salt of lauryl alcohol sulfate	Detergent	Liquid	30%	Anionic	
SD	American Alcolac Corp.	Potassium "	Detergent	Powder	94%	Anionic	
K	American Alcolac Corp.	" "	Detergent	Liquid	30%	Anionic	
M	American Alcolac Corp.	" "	Detergent	Paste	30%	Anionic	
MD	American Alcolac Corp.	" "	Detergent	Liquid	30%	Anionic	
TEA	American Alcolac Corp.	Magnesium "	Detergent	Powder	90%	Anionic	
OS	American Alcolac Corp.	Triethanolamine "	Detergent	Liquid	40%	Anionic	
COS	American Alcolac Corp.	Sodium salt of octyl sulfate	Wetting agent	Liquid	33%	Anionic	A general detergent and group of wetting compounds
CS	American Alcolac Corp.	"	Detergent	Paste	26%	Anionic	
TS	American Alcolac Corp.	"	Detergent	Paste	26%	Anionic	
Sipex TW 860	American Alcolac Corp.	Modified alcohol sulfate	Detergent	Liquid	25%	Anionic	Bubble bath, very high foaming product; "Sipex 860" is a modified product for textile scouring, etc.
Sipon L-22	American Alcolac Corp.	Ammonium salt of lauryl alcohol sulfate	Detergent	Liquid	30%	Anionic	A shampoo and cosmetic base material
Sipon LS	American Alcolac Corp.	Sodium salt of lauryl alcohol sulfate	Detergent	Paste	30%	Anionic	A shampoo and cosmetic base material
LS/B	American Alcolac Corp.	Triethanolamine salt of lauryl alcohol sulfate	Detergent	Liquid	50%	Anionic	A shampoo and cosmetic base material
Sipon LT/6	American Alcolac Corp.	Triethanolamine salt of lauryl alcohol sulfate	Detergent	Liquid	50%	Anionic	A shampoo and cosmetic base material
Sipon WD Crystals	American Alcolac Corp.	Sodium salt of lauryl sulfate	Foaming Detergent	Powder	99.5%	Anionic	Toothpaste
Siponic AP	American Alcolac Corp.	Alkylphenol ether	Detergent	Liquid	100%	Nonionic	
Siponic BC	American Alcolac Corp.	Branched chain alcohol ether	Emulsifier	Liquid	75%	Nonionic	Dishwashing
Siponic TO	American Alcolac Corp.	Tall oil ester	Emulsifier	Liquid	100%	Nonionic	Low foaming detergents
Skortex	Wyandotte Chemicals Corp.	Alkyl aryl sodium sulfonate plus builders	Detergent	Powder	Anionic	A compounded laundry detergent	
Soaps—amine	Miscellaneous	As in name	Emulsifier	Detergent	Anionic	Amine soaps used as emulsifiers include the following: mono-, di-, triethanolamine, isopropanolamine, morpholine, triglutamine, trihydroxy methyl amino methane, 2-amino-2-ethyl-1,3 triethylene tetramine propandiol, etc.	
Softener FG	Synthetic Chemicals, Inc.	Wetting	Paste			Textile softening agent and dispersant for starch, rosin, etc.	

## Synthetic Detergents . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form.	% Conc.	Type	Remarks
Solar Flake	Swift & Co.	Alkyl aryl sulfonate	Detergent	Flake	40%	Anionic	General detergent uses
Solar Neutral	Swift & Co.	Alkyl aryl sulfonate (modified)	Detergent	Granule	27½%	Anionic	A mild neutral detergent for general household use
Solar Heavy Duty	Swift & Co.	Alkyl aryl sulfonate (modified)	Detergent	Granule	30%	Anionic	A built detergent for all heavy duty uses including washing of cotton fabrics
Solar Liquid	Swift & Co.	Coconut oil fatty acid amine condensate (modified with oleic acid)	Detergent	Liquid	100%		Textiles, base for floor cleaners, metal cleaning
Solar "25" Liquid	Swift & Co.	Coconut oil fatty acid amine condensate (modified with an amine sulfonate)	Thickener	Liquid	100%		Textiles, base for high foaming liquid detergents, dedusting granulated detergents
Solar "CO" Liquid	Swift & Co.	Coconut oil fatty acid amine condensate	Detergent	Liquid	100%		High purity, light color
Solid Base H-60	Oil States Petroleum Co.	Petroleum sodium sulfonate	Detergent	Liquid	63%		A rust proofing agent and detergent for petroleum oils
Soluble Base 11	Carlisle Chemical Works	An alkyl sodium sulfonate plus emulsifiers	Emulsifier	Liquid	92%	Anionic	An oil in water emulsifier for preparing soluble oils. Moderately soluble in water, very soluble in benzene, mineral oil, alcohol. Soluble "Base 600" same only designed for use with kerosene emulsions.
Soluble Oil J	L. Sonneborn Sons, Inc.	A blend of petroleum sulfonates	Emulsifier	Liquid		Anionic	A rust inhibitor designed for use with alcohol, radiator anti-freeze mixtures
Soluble Oil Base	Carlisle Chemical Works	An oil soluble petroleum sulfonate	Emulsifier	Liquid		Anionic	Used for making transparent soluble oils for machining and cutting
13-W	Ciba Co.	Sodium salt of alkyl naphthalene sulfo-ionic acid	Wetting Dispersant	Powder		Anionic	"Base 600" same only designed for textile processing
Solvadine BL	Ciba Co.	Alkyl aryl sodium sulfonate	Emulsifier	Flake		Anionic	General purpose anionic surfactant with excellent detergent, wetting and emulsifying qualities; stable and effective in hard water and with acids and alkalies
Solvadine G	Ciba Co.		Detergent	Dispersant		Anionic	General purpose wetting agent for textile processing
Solvadine S	Ciba Co.	Solubilized solvent compound	Detergent	Wetting Emulsifier		Anionic	A spotting agent for the dry cleaning field
Solventol	Burkart-Schier Chemical Co.	Built alkyl aryl sodium sulfonate	Detergent	Wetting	90%	Anionic	General textile scouring and detergency; tar and oil stain remover
Solvex # 50	Perkins Soap Co.	A pine solvent detergent	Detergent	Liquid	40%	Anionic	Textile scouring; "Solvex #100" is a cresylic acid solution of a detergent
Solvit-A	Emulsol Corp., Division of Witco Chemical Co.	Diacyetyl tartaric acid ester of fatty acid-mono and diglycerides	Emulsifier	Liquid		Anionic	Emulsifier for oil-soluble vitamins
Sonolene 500 NF	L. Sonneborn Sons, Inc.		Detergent	Paste	25%	Anionic	A textile detergent for general use
Sorapon SF-73	Anatra Chemicals, a division of General Aniline & Film Corp.	Sodium alkyl aryl sulfonate	Detergent	Beads	35%	Anionic	Stable to acid, alkali and hard water; household and industrial use
Sorapon SF-78	Anatra Chemicals, a division of General Aniline & Film Corp.	Sodium alkyl aryl sulfonate	Wetting Dispersant	Flake	85%	Anionic	Used in textile processing as a detergent, dyeing and bleaching assistant, and lime soap dispersant; detergent base for industrial cleaning compounds
Sorbitol	Burkart-Schier Chemical Co.	Modified amine fatty condensate	Rewetting	Liquid	92%	Nonionic	Finishing and rewetting agent in the textile trade; has some cationic properties
Sorbit AC P	Geigy Industrial Chemicals Division, Geigy Chemical Corp.	Mono and dibutyl naphthalene sodium sulfonate	Wetting	Paste	65%	Anionic	Highly soluble in water and alkalis; recommended for heavy duty metal cleaners and also as a stabilizing agent and coupling agent for liquid detergents; "Sorbit P" same as "Sorbit AC" only in powdered form, 75% active; a 93% powder is also available

# Synthetic Detergents . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Sorolene G	Onyx Oil & Chemical Co.	Alkyl naphthalene sodium sulfonate	Wetting Dispersant	Paste	28%	Anionic	A textile dye assistant and for use in industrial cleaning compounds
Soromine AT	Antara Chemicals, a sales division of General Aniline & Film Corp.	Complex fatty amido compound	Softener	Paste	20%	Amphoteric	Functions as a cationic softening agent in acid liquors and a nonionic and/or anionic softener in neutral or alkaline liquors; base ingredient for household and commercial laundry softener
Soromine BNS	Antara Chemicals, a sales division of General Aniline & Film Corp.	Fatty acid amide complex	Softener	Paste	35%	Cationic	Softening agent for cellulosic and animal fibers; dye fixing agent
Soromine BSA	Antara Chemicals, a sales division of General Aniline & Film Corp.	Alkyl biguanidine	Softener	Paste	73%	Cationic	Highly substantive softener for cellulosic fibers; anti-static agent for synthetic fibers
Soromine FW	Antara Chemicals, a sales division of General Aniline & Film Corp.	Sodium salt of a fatty amide complex	Softener Lubricant	Paste		Anionic	A cellulosic fiber softener
Sotex N NC CW 3CW C WO CX 487	Synthetic Chemicals, Inc.	Long chain fatty acid esters containing multiple ether linkages.	Dispersant Emulsifier	Liquid			A dispersant for paints, etc.; modified types are designated "Sotex-C," "-CW" and "NC." Sotex "3CW" is useful in quick enamels; "Sotex NC" is useful as a pigment disperser in nitrocellulose plasticizers
Span 20	Atlas Powder Co.	Sorbitan monolaurate	Emulsifier	Liquid	100%	Nonionic	General emulsifier—antifoaming agent
Span 40	Atlas Powder Co.	Sorbitan monopalmitate	Emulsifier	Solid	100%	Nonionic	General emulsifier
Span 60	Atlas Powder Co.	Sorbitan monostearate	Emulsifier	Solid	100%	Nonionic	General emulsifier (large application in foods); "Span 62" is similar to "Span 60," but a different grade
Span 62							
Span 65	Atlas Powder Co.	Sorbitan tristearate	Emulsifier	Solid	100%	Nonionic	General emulsifier
Span 80	Atlas Powder Co.	Sorbitan monoleate	Emulsifier	Liquid	100%	Nonionic	General emulsifier; forms W/O emulsions
Span 85	Atlas Powder Co.	Sorbitan trioleate	Emulsifier	Liquid	100%	Nonionic	General emulsifier
Sprex AC	Du Bois Co.	Alkyl aryl sodium sulfonate modified with a nonionic	Detergent	Powder		Anionic	A general detergent for use in the food industry
SS 96	James Varley & Sons, Inc.		Detergent	Liquid			An all-purpose cleaner for use in private brand formulations
Stablex A	Heveatex Corp.	Naphthalene sodium alkyl sulfonate	Wetting	Powder	100%	Anionic	Latex stabilizing and compounding agent
Stablex B	Heveatex Corp.	Sodium naphthalene sulfonate	Dispersant	Powder	100%	Anionic	Dispersing agent
Stablex G	Heveatex Corp.	Petroleum sodium sulfonate	Wetting	Powder	100%	Anionic	Latex stabilizer
Star-dapol	Standard Chemical Products, Inc.	Sulfonated vegetable oils	Emulsifier Lubricant	Liquid		Anionic	A textile lubricant and softener
Stansamine	Standard Soap Co. of Camden	Fatty alkylamine condensate	Detergent Wetting	Liquid		Nonionic	Detergent, wetting, thickener, lubricant
Stanso 30	Standard Soap Co. of Camden	Alkyl aryl sulfonate	Dispersant Detergent	Liquid		Anionic	Textile scouring aid
Stanso 40	Standard Soap Co. of Camden	Highly sulfated fatty ester	Wetting	Liquid		Nonionic	Alkali stable, sanitizing assistant
Stanso 50	Standard Soap Co. of Camden	Ethylene oxide condensate	Wetting Detergent	Liquid		Nonionic	Textile finishing agent and softener
Stanso Tex Oil	Standard Soap Co. of Camden	Sulfated glyceride	Softenner Wetting	Liquid		Anionic	General purpose textile assistant

## Synthetic Detergents . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Stanleosine B B-10 M-10	Standard Chemical Products, Inc.	A fatty amine condensate	Softener	Paste	40%		"Stanleosine B-10" and "M-10" are 45% active substituted fatty alkanolamides. Uses: textile softening agents
Stanlex 322	Standard Chemical Products, Inc.	Sulfated fatty ester	Wetting Dispersant	Liquid	65%	Anionic	Textile dyeing assistant, etc.
Stepan Con #1353	Stepan Chemical Co.	A compound product of sulfated vegetable oils, liquid petroleum and water Fatty acid alkylolamide	Emulsifier	Liquid	100%	Anionic	A base material for non-lathering oil shampoos, skin cleansers, etc.
Stepan HDA-7	Stepan Chemical Co.	Alkyl aryl sulfonate plus nonionic foam builder	Detergent	Liquid	60% 42% 40%	Nonionic Anionic	Developed for use in compounding high phosphate content liquid hard surface cleaners Above products are designed as built liquid detergent bases for formulations
Stepan LD 99	Stepan Chemical Co.	An alkylolamide	Detergent	Liquid	50%	Nonionic	A foam stabilizing agent for use in alkyl aryl and alcohol sulfate detergents
LD 55	Stepan Chemical Co.	A fatty alkanolamide	Detergent	Liquid Solid	100%	Nonionic	Used as a foam stabilizer for alkyl aryl sulfonates and alcohol sulfate detergent compositions
LD 44	Stepan Chemical Co.	A formulated liquid detergent for in- dustrial use	Detergent	Liquid	100%	Anionic	For use as an industrial cleaner for dish- washing, car shampoos, bubble baths, aux- iliary emulsifier in scrub soaps, etc.
DS 60	Stepan Chemical Co.	Coconut fatty acid alkanolamides	Detergent	Liquid	100%	Nonionic	"Stepan T-6-A" is a thickening agent and foam stabilizer for use in shampoos; "Stepan T-6-B" has greater thickening but less detergency power; "Stepan S-86" is a textile scouring agent for use above pH 6.0; "Stepan ADT" is an industrial thickening agent for floor clean- ers, etc.
Stepan LPA	Stepan Chemical Co.						
Stepan RB-98	Stepan Chemical Co.						
Stepan T-6-A T-6-B S-83 ADT	Stepan Chemical Co.						
Stepanol AM Mg ST	Stepan Chemical Co.	Salts of alcohol sulfates	Detergent	Liquid	30% 40%	Anionic	"Stepanol AM" is the ammonium salt, "Mg" the magnesium, and "ST" the triethanolamine salt
Stepanol B-153	Stepan Chemical Co.	An ammonium alkyl phenoxy poly- oxyethylene sulfate Sodium lauryl sulfate	Detergent	Liquid	57-60%	Anionic	
Stepanol ME Dry ME Dry AW	Stepan Chemical Co.	Sodium lauryl sulfate	Detergent	Solid	90-94%	Anionic	These are highly purified compounds for cos- metics and other uses.
Stepanol WA Paste WA Special WAO WAT	Stepan Chemical Co.		Detergent	Liquid	28-30%	Anionic	"WA Paste" is a general type detergent, "WA Special" has low salt content, "WAO" is similar to "WA Paste" but in liquid form for use in shampoos. "WAT" is the triethanolamine salt for shampoos.
Sterox AH	Monsanto Chemical Co.	Aliphatic nonionic polyoxyethylene ether	Detergent Wetting Detergent Wetting	Liquid Liquid		Nonionic	"Sterox AH," less water soluble than "Sterox AI," is intended primarily as a wetting agent Dishwashing and general household use as well as in various industrial applications such as metal cleaners and in the field of emul- sifiers
Sterox AI	Monsanto Chemical Co.	Aliphatic nonionic polyoxyethylene ether	Detergent	Liquid	100%	Nonionic	More soluble in cold than hot water; 2% in water at 140-160°F gives a cloudy solution; detergency is good
Sterox CD	Monsanto Chemical Co.	Polyoxyethylene ester	Detergent	Liquid	100%	Nonionic	Dishwashing, metal cleaners, textiles, etc.; "Sterox SK" is more surface active but less water soluble than "SE"
Sterox SE SK	Monsanto Chemical Co.	Polyoxyethylene thioether	Detergent	Liquid	100%	Nonionic	

# Synthetic Detergents . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Sterox 5 <sup>6</sup>	Monsanto Chemical Co.	Polyoxyethylene thioether	Detergent	Liquid	88%	Nonionic	"Sterox 5" and "6" are the same as "Sterox SE" and "SK," respectively, only cut with water to 85% active
Strodex N-50 D Pdr.	Dexter Chemical Co.	Potassium and sodium salts of sulfated amide products of straight chain acids of the general formula: R-C(=O)-R <sub>1</sub> -—OSO <sub>3</sub> Na . R and R <sub>1</sub> vary from C <sub>2</sub> to C <sub>18</sub>	Detergent	Liquid Solid Paste		Anionic	These stable products are useful in all detergent and wetting operations in the textile field.
Sulfanole AN ANO S Gel. Conc.	Warwick Chemical Co., a division of Sun Chemical Corp.	A fatty amine condensate	Detergent Emulsifier	Liquid	100%	Anionic	Textiles
Sulfanole ANC	Warwick Chemical Co., a division of Sun Chemical Corp.	Fatty amine condensate	Detergent Wetting Foaming Foaming Detergent	Liquid	30%	Nonionic	Low cost form of amine condensate
Sulfanole ANF	Warwick Chemical Co., a division of Sun Chemical Corp.	Lauryl alkyl amide condensate	Detergent	Paste	25%	Anionic	Light colored fatty amine condensate designed especially for cosmetic use
Sulfanole CP	Warwick Chemical Co., a division of Sun Chemical Corp.	Fatty amide sulfate	Detergent	Liquid	30%	Anionic	Textile of cotton, scouring and fuling of woolens, etc. Rug and upholstery cleaners; cream and paste shampoos
Sulfanole FAF	Warwick Chemical Co., a division of Sun Chemical Corp.	Sodium salt of an alcohol sulfate	Detergent	Liquid	35%	Anionic	A liquid leveling agent in kier boiling
Sulfanole FAR FAA	Warwick Chemical Co., a division of Sun Chemical Corp.	Triethanolamine salt of lauryl sulfate	Detergent	Liquid	60%	Anionic	"Sulfanole FAA" is the same in 60% concentration.
Sulfanole KA	Warwick Chemical Co., a division of Sun Chemical Corp.	Alkyl aryl sodium sulfonate	Detergent Wetting				Used as industrial and domestic cleaner
Sulfanole KB KB-40	Warwick Chemical Co., a division of Sun Chemical Corp.	Alkyl aryl sodium sulfonate	Detergent Wetting	Powder	40%	Anionic	General cleanser for industrial and home use
Sulfanole KS	Warwick Chemical Co., a division of Sun Chemical Corp.	Alkyl benzene sodium sulfonate	Foaming Wetting	Liquid	30%	Anionic	High active, non-separating, low cloud point alkyl aryl sulfonate type penetrant and foaming agent
Sulfanole LAN	Warwick Chemical Co., a division of Sun Chemical Corp.	Lauryl alkyl amide condensate	Detergent Wetting	Liquid	100%	Nonionic	High purity amine condensate of good color, especially useful for cosmetic applications
Sulfanole NPE	Warwick Chemical Co., a division of Sun Chemical Corp.	Alkyl polyglycol ether	Dispersant	Paste	100%	Nonionic	Efficient wetting agent
Sulfanole R	Warwick Chemical Co., a division of Sun Chemical Corp.	Fatty acid protein condensate	Detergent Wetting	Liquid	40%	Anionic	Textile scouring, etc.
Sulfanole S Powder	Warwick Chemical Co., a division of Sun Chemical Corp.	Sulfonated fatty amide	Detergent Foaming	Powder	28%	Anionic	Detergent, resistant to hard water; useful for washing in sea water
Sulfanole No-9 Anhydrous No-93	Warwick Chemical Co., a division of Sun Chemical Corp.	Alkyl phenoxy polyoxyethylene ethanol	Detergent Emulsifier Wetting	Liquid	100% 30%	Nonionic	General purpose surface active agent resistant to acids, alkalies, and other electrolytes; "Sulfanole No-93" is a 30% concentration of "Sulfanole No-9 Anhydrous."
Sulfate Bl	Glyco Products Co.	Alkyl aryl sodium sulfonate	Wetting Penetrant	Liquid	35%	Anionic	Water soluble; non-toxic; textiles, paper, leather, cosmetics
Sulfatex	L. Sonneborn Sons, Inc.	Sulfated amine	Detergent	Paste	30%		

# Synthetic Detergents . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Sulfol 448	E. F. Houghton & Co.	Nonionic stock lubricant	Lubricant	Liquid	100%	Nonionic	Textile
Sul-Fon-Ale AA9	Tennessee Corp.	Dodecybenzene sodium sulfonate	Wetting Detergent	Powder	90%	Anionic	
AA10							
AA4	Tennessee Corp.	Sulfonated oleic acid	Emulsifier	Liquid		Anionic	Textile, as a wool carbonizer, in metal cleaning, etc.
Sul-Fon-Ale-OA-5	Tennessee Corp.		Wetting				
Sulfonate S-40	Sinclair Chemicals, Inc.	A sodium mahogany sulfate M.W. 461	Emulsifier	Liquid	40%	Anionic	For preparing soluble cutting oils
Sulfopon 450	Fallek Products Co.	Fatty alcohol sodium sulfate	Detergent	Paste	45%	Anionic	Heavy duty detergents, cleansing agents; "Sul-lopox O" is 28% active; "OK," 35% active.
O							
Sulfopon K	Fallek Products Co.	Lauryl sodium sulfate	Detergent	Flake & Powder	35%	Anionic	Light and heavy duty detergents, rinsing agents
Sulfuramin AB	Ultra Chemical Works, Inc.	Dodecyl benzene sulfonate	Detergent	Flake & Powder	39-41%	Anionic	Detergent, base for household, industrial, and dairy cleaning compounds, textile scouring agent. The "AB Conc." is 85% active.
AB 40							
AB Conc.							
AB 40 Beads							
AB Slurry							
Sulfuramin ABW	Ultra Chemical Works, Inc.	Dodecyl benzene sulfonate plus alkyl amide sulfates	Detergent	Powder	80-85%	Anionic	Textile scouring agent, miscellaneous household cleaners
Sulfuramin DHL	Ultra Chemical Works, Inc.	Sodium salt of an alkyl amide sulfate	Wetting Detergent	Powder	45-47%	Anionic	Textile scouring and dye assistant
Cone.							
Sulfuramin DR	Ultra Chemical Works, Inc.	Sodium salt of an hydroxy alkyl amido alcohol sulfate	Wetting Detergent	Liquid	31%	Anionic	Textile dye dispersant, shampoo
Sulfuramin DT	Ultra Chemical Works, Inc.	Sodium salt of an alkyl amide sulfate	Penetrant Detergent	Liquid	25%	Anionic	Industrial, textile and household cleaners; not stable to strong alkali or acids; also available in more concentrated forms
Sulfuramin E	Ultra Chemical Works, Inc.	Modified alkyl aryl sulfonate	Detergent	Powder	14%	Anionic	Lower, but more stable foam, than straight alkyl aryl
Sulfuramin KE	Ultra Chemical Works, Inc.	Alkyl aryl sulfonate (decyl benzene)	Detergent	Liquid	25%	Anionic	High foaming and detergent properties; excellent for liquid blending
Sulfuramin HD	Ultra Chemical Works, Inc.	Alkyl aryl sulfonate	Detergent	Bead	30%	Anionic	Household detergent, general purpose cleaning
Beads							
Sulfuramin LW	Ultra Chemical Works, Inc.	Sodium salt of a lauryl amino sulfate	Detergent	Powder	17%	Anionic	Textiles, household cleaners
Sulfuramin N	Ultra Chemical Works, Inc.	Sodium salt of a dialkylnaphthalene sulfonic acid	Wetting	Paste	55%	Anionic	Low foaming, acid and alkali stable; textiles, for wool carbonizing and mercerizing cotton
Sulfuramin Sulfonic acid	Ultra Chemical Works, Inc.	Dodecyl benzene sulfonic acid	Intermediate	Slurry	84%	Anionic	Detergent base; for compounding
Superamides I9	Onyx Oil & Chemical Co.	High purity fatty acid alkanolamides	Detergent	Solid	80-95%	Nonionic	Virtually free of alkanolamine and soap; contains 80-85% of pure alkanolamide; "GC" and "GR" are liquids.
GC							
GR							
Supergel RS	Laurel Soap Mfg. Co.	Alkyl aryl sulfonate builders	Emulsifier	Liquid		Anionic	Textile scour and wetting agent
Supersulphate FS	Laurel Soap Mfg. Co.	Alkyl aryl sulfonate	Detergent	Powder		Anionic	Textile detergent and wetting agent
Supronyx	Onyx Oil & Chemical Co.	Modified sodium alkyl sulfate	Detergent	Liquid	21%	Anionic	Textile scouring and dyeing, industrial cleaners
Surf (retail)	Levter Brothers Co.	Sodium alkyl aryl sulfonate plus builders	Detergent	Powder		Anionic	All-purpose heavy-duty detergent
Surface Active Agent BPE TR	American Cyanamid Co.	Bis(p-tert-butyl phenoxyethyl) sodium sulfosuccinate	Wetting	Solid	100%	Anionic	Ink and pigment dispersant
Surfex 505	E. F. Houghton & Co.	Fatty ester	Emulsifier	Liquid	100%	Nonionic	A rewetting agent for paper as for wet strength paper toweling, etc.

# Synthetic Detergents . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Surfax 1288	E. F. Houghton & Co.	Alkyl aryl sulfopropionic ester	Wetting Penetrant	Liquid	60%	Anionic	Textile, for wetting and rewetting, particularly in neutral or mildly alkaline solutions; used as dry-bath leveller
Surfax WO WS	E. F. Houghton & Co.	Sulfated propyl oleate	Wetting Penetrant	Liquid	64%	Anionic	Combined penetrant, softener wetting and rewetting agent; "WS" is sulfated amyl oleate. Use similar to "WO".
Surfynol 82	Air Reduction Chemical Co.	Dimethyl octynediol	Dispersant	Solid	100%	Nonionic	An aqueous anti-gelling agent for CMC, starch, polyvinyl alcohol, etc.
Surfynols 102 104	Air Reduction Chemical Co.	Aliphatic substituted butyne diols and octyndiols such as $\begin{array}{c} R_2 \\   \\ R_1 - C - C = C - C - R_4 \\   \\ OH \end{array}$	Detergent Dispersant	Wax	100%	Nonionic	Non-foaming surface active agents, for use in low foam detergents, pigment dispersing agent and for viscosity reduction and gelation retarder in gum and starch solutions; $R_1, R_2, R_3$ and $R_4$ are aliphatic of molecular weights of 200-225.
Syn-o-tol AV	E. F. Drew & Co.	A modified coconut oil amino condensate	Detergent Wetting Emulsifier Stabilizer	Liquid	95%	Anionic	A synergist and thickener, good solvent and emulsifier for bath oil preparations, improves foaming, corrects hard water problems
Syn-o-tol VS	E. F. Drew & Co.	A coconut fatty acid amino condensate	Wetting	Liquid	90%	Anionic	Developed to impart high viscosity at low aqueous dilutions; a thickener and foam stabilizer for lotion type shampoos
Syntergent MV	Hart Products Corp.	Sulfated fatty acid amide	Detergent Wetting	Paste		Anionic	A water soluble scouring agent for the textile trade
Syntergent K	Nopco Chemical Co.	Fatty amido condensate	Detergent	Liquid	30%	Nonionic	General purpose detergent for textile, leather, paper and metal working
Syntergent 25 25M	Nopco Chemical Co.	Alkyl aryl polyoxyethylene condensate	Detergent Wetting	Liquid	100%	Nonionic	Dyeing penetrant, fulling and scouring aid; rewetting agent for toweling, carbonizing penetrant; solvent emulsifier
Syntergent 25X	Nopco Chemical Co.	Polyoxyethylene ester	Detergent	Liquid	100%	Nonionic	General purpose detergent for textile, leather, paper and metal working
Synthetics AD50	Hercules Powder Co.	Polyethylene glycol ether of hydrobietyl alcohol	Detergent Emulsifier	Liquid to wax	100%	Nonionic	Hydrophilic, emulsifier
Synthetics AD160	Hercules Powder Co.	Polyethylene glycol ether of hydrobietyl alcohol	Detergent Emulsifier	Wax	100%	Nonionic	Hydrophilic, emulsifier, low-foaming detergents
Synthetics AD400	Hercules Powder Co.	Polyethylene glycol ether of hydrobietyl alcohol	Emulsifier	Wax	100%	Nonionic	Hydrophilic, emulsifier
Synthetics AF40	Hercules Powder Co.	Polyethylene glycol ether of an alkylated phenol	Detergent Emulsifier	Liquid	100%	Nonionic	Hydrophobic, emulsifier and wetting agent for emulsification of heavy oils and high melting waxes
Synthetics AF80	Hercules Powder Co.	Polyethylene glycol ether of an alkylated phenol	Detergent Emulsifier	Liquid	100%	Nonionic	Hydrophobic, emulsifier and wetting agent, wool detergent
Synthetics AF100	Hercules Powder Co.	Polyethylene glycol ether of an alkylated phenol	Detergent Emulsifier	Liquid	100%	Nonionic	Hydrophobic, detergents, acid cleaners, wetting agent, emulsifier, textile processing aid
Synthetics AF150	Hercules Powder Co.	Polyethylene glycol ether of an alkylated phenol	Detergent Emulsifier	Liquid to wax	100%	Nonionic	Hydrophobic, detergents, wax emulsifier, dyeing assistant
Synthetics AF200	Hercules Powder Co.	Polyethylene glycol ether of an alkylated phenol	Detergent Emulsifier	Wax	100%	Nonionic	Hydrophobic, emulsifier
Synthetics AR50	Hercules Powder Co.	Polyethylene glycol ester of rosin	Detergent Emulsifier	Liquid to wax	100%	Nonionic	Hydrophobic, emulsifier, agricultural spray emulsions
Synthetics AR100	Hercules Powder Co.	Polyethylene glycol ester of rosin	Detergent Emulsifier	Liquid	100%	Nonionic	Hydrophobic, emulsifier, toxicant emulsions
Synthetics AR150	Hercules Powder Co.	Polyethylene glycol ester of rosin	Detergent Emulsifier	Liquid to wax	100%	Nonionic	Hydrophobic, emulsifier, low-foaming detergents
Synthetics AR200	Hercules Powder Co.	Polyethylene glycol ester of rosin	Detergent Emulsifier	Wax	100%	Nonionic	Hydrophobic, acid cleaners, oil well acidizing

# Synthetic Detergents . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Synthetics AR201	Hercules Powder Co.	Polyethylene glycol ester of rosin	Detergent Emulsifier	Liquid	85%	Nonionic	Hydrophilic, acid cleaners, oil well acidizing
Synthogel	Synthron, Inc.	Sodium salt of a substituted amido-ethyl-sulfonate. (Contains less than 1% soap)	Detergent Wetting	Gel	76%	An aqueous solution stable to acids, alkali and bleaching agents for use in textile scouring and wetting operations within the range 50°-100° C.	
Synthrapol KB	Arnold, Hoffman & Co.	An ethylene oxide condensate	Detergent Wetting	Liquid	97%	Nonionic	A fast wetting agent very stable to acid, alkali and salts; used in textile kier boiling and for general purpose cleaning
Tamol 731	Rohm & Haas Co.	Sodium salt of carboxylated poly-electrolyte	Dispersant	Liquid Powder	25% 87-91%	Anionic	Colorless dispersant for dyes and pigments. Also available as a 100% active powder
Tamol N	Rohm & Haas Co.	Sodium salt of condensed sulfonic acid	Dispersant	Powder	Anionic	A dispersant for pigments, carbon black, clay, dyestuffs, etc.	
Tauranol DL	Finetex, Inc.	Sodium N-methyl-N-alkyl-taurate	Detergent	Paste Liquid	33% 16% 46% 29% 46%	Anionic	Cover wide range of detergent applications where high foam and good stability are required; alkyl groups as follows: "DL" and "DG"—tall oil, "RS"—tallow acid, "MS"—oleic and "WS"—coconut oil acids
Tauranol DG							
MS							
RS							
WS							
Teepol (British)	Shell Chemical Co., Ltd., London, England	Secondary sodium alkyl sulfate	Detergent Wetting	Liquid Paste	34%	Anionic	From cracked petroleum olefines by sulfation; detergency inferior to primary alcohol sulfates; wetting power superior to them; general cleaning, cosmetics, paints, rubber, etc.; also available as a double strength 42% active powder and flakes
Tegin	Goldschmidt Chemical Corp.	Glycerol monostearate	Emulsifier	Flake	100%	Nonionic	Self emulsifying; cosmetics, pharmaceuticals
Tegin 515	Goldschmidt Chemical Corp.	Glycerol monostearate	Emulsifier	Flake	100%	Nonionic	Non-self emulsifying; uses: cosmetics, etc.
Tegacid	Goldschmidt Chemical Corp.	Glycerol monostearate	Emulsifier	Flake	100%	Nonionic	Self emulsifying; uses: cosmetics, etc.
Tegin P	Goldschmidt Chemical Corp.	Propylene glycol monostearate	Emulsifier	Flake	100%	Nonionic	Self emulsifying; uses: cosmetics, pharmaceuticals
Telkanite M	Dexter Chemical Co.	A polyoxyethylated fatty alcohol	Dispersant	Liquid		Nonionic	A textile dye dispersant
Telkanol O	Dexter Chemical Co.	A polyoxyethylated fatty alcohol	Dispersant	Liquid		Nonionic	A textile dye leveling agent for cotton—wool and wool-synthetic unions
Tenesol	Charlotte Chemical Laboratories, Inc.		Wetting				Textiles
Tenlo 10	Griffin Chemical Co.	Polyhydric alcohol ester	Wetting	Liquid	100%	Nonionic	Water-oil soluble
Tenlo 46A	Griffin Chemical Co.	Polyhydric alcohol ester	Wetting	Liquid	30%	Anionic	Water soluble
Tenlo 70	Griffin Chemical Co.	Polyhydric alcohol ester	Wetting	Liquid	100%	Anionic	Pigment mixing and grinding aid
Tenlo 400	Griffin Chemical Co.	Polyhydric alcohol sulfonic acid derivative	Emulsifier	Liquid	100%	Anionic	For weed oils
Tenlo 420	Synthetic Chemicals, Inc.	Sulfonated naphthalene alkyl ether	Emulsifier Dispersant	Paste		Anionic	Textiles, leather, rubber
Teox 120	Blockson Chemical Co., division Olin Mathieson Chemical Corp.	A polyethenoxy tallate	Detergent	Liquid	100%	Nonionic	This product is designed for use in non-sudsing detergent compositions
Tergenol G	Hart Products Corp.	A modified alkyl sulfate	Detergent	Gel		Anionic	Textile scouring
Tergitol 98	Carbide & Carbon Chemicals Co.	Sodium sulfate derivative of 2-ethyl hexanol-1-C <sub>4</sub> H <sub>9</sub> CH—CH <sub>2</sub> SO <sub>3</sub> Na	Wetting Emulsifier	Liquid	38%	Anionic	Very stable to high concentration of electrolyte; mercerizing; penetrant C <sub>2</sub> H <sub>5</sub>

# Synthetic Detergents . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Tergitol 4	Carbide & Carbon Chemicals Co.	Sodium sulfate derivative of 7-ethyl-2-methylundecanol-4 $\text{C}_4\text{H}_9\text{CH}(\text{CH}_2)\text{CH}(\text{CH}_2)\text{CH}_2\text{CH}(\text{CH}_3)_2$	Wetting Penetrant Emulsifier	Liquid	25%	Anionic	Used for emulsion polymers where electrolyte is between 2 to 5% or acid content between 1-10%; carbonizing wool
Tergitol 7	Carbide & Carbon Chemicals Co.	Sodium sulfate derivative of 3,9-diethyl tridecanol-6 $\text{C}_6\text{H}_5\text{CH}(\text{CH}_2)\text{CH}(\text{CH}_2)\text{C}_2\text{H}_5\text{CH}(\text{CH}_3)_2$	Wetting Penetrant Emulsifier	Liquid	25%	Anionic	Used where electrolyte is below 1%; textiles, emulsion polymers, rubber latices, leather, pharmaceutical
Tergitol EH	Carbide & Carbon Chemicals Co.	Sodium 2-ethylhexene sulfonate $\text{C}_6\text{H}_5\text{CH}_2-\text{CH}_2\text{CH}=\text{C}-\text{CH}_2\text{SO}_3\text{Na}$	Wetting Penetrant	Liquid	25%	Anionic	Developed for concentrations of electrolytes higher than "Tergitol 08"; uses: electrolyte baths, mercenizing of cotton, metal cleaners, etc.
Tergitol P-28	Carbide & Carbon Chemicals Co.	Sodium di(2-ethylhexyl) phosphate $(\text{C}_6\text{H}_5\text{CH}(\text{CH}_2)_2\text{NaPO}_4$	Wetting Emulsifier	Liquid	25%	Anionic	Insoluble in acid, stable in alkali; uses: textiles kier boiling, dyeing, cleaners, etc.
Tergitol NPX, anhydrous NPX	Carbide & Carbon Chemicals Co.	Alkyl phenyl polyethylene glycol ether	Wetting Detergent Emulsifier Dispersant	Liquid	100%	Nonionic	Water-soluble detergent, wetting agent and emulsifier; textile scouring, household and industrial detergents, emulsion polymerization, emulsifier for agricultural concentrates; pigment dispersant, leather processing. "Tergitol NPX" is the same as "Tergitol NPX."
Tergitol NP-14	Carbide & Carbon Chemicals Co.	Alkyl phenyl polyethylene glycol ether	Emulsifier Detergent	Liquid	100%	Nonionic	Oil-soluble emulsifier and detergent; dry cleaning detergents, industrial cleaners, etc; agricultural toxicant formulations.
Tergitol NP-27	Carbide & Carbon Chemicals Co.	Alkyl phenyl polyethylene glycol ether	Emulsifier Wetting Dispersant Detergent	Liquid	100%	Nonionic	Soluble in aromatic solvents; agricultural toxicants formulations; specialty cleaners and sanitizers
Tergitol NP-35 NP-40	Carbide & Carbon Chemicals Co.	Alkyl phenyl polyethylene glycol ether	Wetting Penetrant Emulsifier Detergent	Liquid	100%	Nonionic	Highly water-soluble; detergent and wetting agent at elevated temperatures in presence of dissolved electrolytes; "NP-35" cloud point 95°C. approximately; "NP-40" cloud point > 100°C.
Terjolate (retail)	White Laboratories, Inc.	Sodium octadecanoate N-diethanol, N-alkylamide et al	Detergent	Liquid	90%	Nonionic	Nonionic wetting and rewetting agent; leveling agent for emulsions and dispersions
Tetranol	Arkansas Co.	Sodium sulfate of a fatty acid ester	Wetting Sequesterant	Liquid	50%	Anionic	Emulsifier and low foaming detergent
Tetrine—acid disodium trisodium tetruronium	Glyco Products Co.	Ethylenediamine tetraacetic acid	Sequesterant	Powder	99%	Anionic	A companion product of "Acidolite" and "Dermolite"; nonirritating to the skin; general purpose cleanser for household, etc.
Tetronics	Wyandotte Chemicals Corp.		Detergent Dispersant	Liquid Paste Solid	100%	Nonionic	Used as materials for detergent compounds, dye leveling agents, dispersing agents, etc.

## Synthetic Detergents . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Tetrosan 60%	Onyx Oil & Chemical Co.	Alkyl dimethyl 3:4-dichlorobenzyl ammonium chloride. Also contains alkenyl dimethyl ethyl Alkyl dimethyl 3,4 dichlorobenzyl ammonium chloride	Germicide	Liquid	60%	Cationic	Veterinary and pharmaceutical applications; acid and alkali-stable
Tetrosan 3,4D	Onyx Oil & Chemical Co.	Alkyl dimethyl 3,4 dichlorobenzyl ammonium chloride	Germicide	Liquid	60%	Cationic	Veterinary and pharmaceutical applications; acid and alkali-stable
Texol	Burkart-Schier Chemical Co.	Diethanolamine fatty acid condensate	Detergent; Wetting	Liquid	100%	Nonionic	General purpose surfactant
Texsoft	Armour & Co.	Quaternary ammonium compound	Emulsifier Softener	Paste	75%	Cationic	Oil soluble quaternary for textile lubrication, softening, mold inhibiting, etc.
Tide (retail)	Procter & Gamble Co.		Detergent	Granular		Anionic	Built all-purpose detergent
Titadine TA	Titan Chemical Products, Inc.	Mixture of alkyl naphthalene sulfonic acid ester and sulfated alcohol	Wetting				Textiles, leather, paper, household detergents, etc.
Titamine TCP	Titan Chemical Products, Inc.	Derivative of sulfonated alcohol	Wetting Emulsifier				Textiles, leather, paper, household detergents, etc.
Titan Decitrene	Titan Chemical Products, Inc.	Alkylated aromatic sulfonate	Wetting				Textiles, leather, paper, household detergents, etc.
Titanole RMA	Titan Chemical Products, Inc.	Alkylated aryl sodium sulfonate	Wetting				Textiles, leather, paper, household detergents, etc.
Titezole SA	Titan Chemical Products, Inc.	Sodium alkyl naphthalene sulfonate	Wetting				Textiles, leather, paper, household detergents, etc.
Toximul 100 200 300 400 500	Ninol Laboratories, Inc.	Anionic—nonionic blends	Emulsifiers	Liquid		Anionic	Insecticide emulsifiers
Trem 014 024 615 616 618	Griffin Chemical Co.	Polyhydric alcohol esters	Emulsifier	Liquid	100%	Nonionic	For agricultural emulsifiable insecticide concentrates
Trend (retail) Trend Liquid (retail)	Purex Corp.	An alkyl aryl sulfonate, plus builders	Detergent	Powder Liquid		Anionic	A light duty type household cleaner; "Trend Liquid" is a foam stabilized anionic for light duty such as dishes
Trend 5 15	Purex Corp.	Built dodecylbenzene sodium sulfonates containing phosphates and a foam stabilizer	Detergent	Solid Powder		Anionic	Spray dried built alkyl aryl sulfonates for commercial dishwashing use
Trend 40 Neutral Beads	Purex Corp.	Dodecylbenzene sodium sulfonate plus sodium sulfate sodium chloride	Detergent Solid Bead		40%	Anionic	"Trend 40" is the spray dried product produced from "Purex Detergent Slurry" and is available to manufacturers for blending into other products.
Trepene Sulfate	Treplow Products, Inc.	Di-2-ethyl hexyl sodium sulfosuccinate	Wetting	Paste	85%	Anionic	
Trepelen T-100	Treplow Products, Inc.	Triethanolamine salt of a sulfated alkyl phenoxy polyoxyethylene ether	Detergent Emulsifier	Liquid	100%	Anionic	
Trepelen S-60 S-60W	Treplow Products, Inc.	The sodium salt of the sulfonic acid of the polyoxyethylene ether of lauryl alcohol $\text{CH}_3(\text{CH}_2)_{11}-\text{CH}_2-(\text{O}-\text{C}_2\text{H}_5)_4-\text{O}-\text{SO}_3\text{Na}$	Wetting Detergent Dispersant	Gel	60%	Anionic	This product is stable to acids, alkali and hypochlorite solution
Trepelen WA WAT ES	Treplow Products, Inc.	Sodium lauryl sulfate	Detergent	Liquid	27%	Anionic	A detergent base for shampoos, dishwashing formulations, etc.
Tropolate M-10	Treplow Products, Inc.	The triethanolamine salt of dodecyldimethyl benzene sulfonate plus foam stabilizer	Detergent; Liquid		60%	Anionic	An all-purpose detergent for dishwashing, laundry, car washing, shampoos, etc.

# Synthetic Detergents . . .

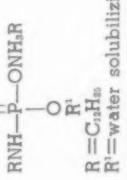
Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Trepoline 505	Trepow Products, Inc. (W. W. Angst Inc.) agents	A non-sulfonated, hydroscopic amine condensate	Emulsifier	Liquid	98%	Anionic	Low foam power, water dispersible, good solvent for the textile and cosmetic industries
Triton B-1956	Rohm & Haas Co.	Modified phthalic glycerol alkyd resin	Emulsifier	Liquid	77%	Nonionic	Used as a spreader in insecticide and fungicide sprays for fruits and vegetables and an emulsifier in insecticide formulations
Triton CF-10	Rohm & Haas Co.	Alkyl aryl ether	Detergent Wetting	Liquid	100%	Nonionic	Low foaming detergent for mechanical dish-washing, automatic laundering, metal cleaning, dairy equipment cleaning
Triton GR-5	Rohm & Haas Co.	Sulfated alkyl esters	Wetting Rewetting Emulsifier	Liquid	60%	Anionic	High speed wetting and rewetting, absorbency improvement of textiles.
Triton GR-7	Rohm & Haas Co.	Sulfated alkyl esters	Detergen; Softener	Liquid	64%	Anionic	Dry cleaning detergent, agricultural emulsions (experimental detergent)
Triton K-60	Rohm & Haas Co.	Stearyl dimethyl benzyl ammonium chloride	Paste	25%	Cationic	Cationic softener for textile fabrics	
Triton NE	Rohm & Haas Co.	Alkyl aryl polyether alcohol	Detergent Emulsifier Dispersant Wetting	Liquid	33%	Nonionic	Aqueous solution of "Triton X-100"; see remarks under "Triton X-100"
Triton W-30 Conc.	Rohm & Haas Co.	Sodium salt of alkyl aryl polyether sulfate plus isopropanol	Detergent Dispersant Wetting	Liquid	27%	Anionic	Leveling and wetting agent for textile processing
Triton X-45	Rohm & Haas Co.	Alkyl aryl polyether alcohol	Wetting Emulsifier	Liquid	100%	Nonionic	Insecticide emulsifier; dry cleaning detergent, dispersing and wetting agent in organic systems
Triton X-67	Rohm & Haas Co.	Alkyl polyether alcohol	Wetting Emulsifier	Wax-like solid	100%	Nonionic	Dye leveling, emulsifying, acid degreasing
Triton X-100	Rohm & Haas Co.	Alkyl aryl polyether alcohol	Wetting Detergent Dispersant Emulsifier	Liquid	100%	Nonionic	Household and industrial cleaners; textile processing, wool scouring, emulsifying agent, for insecticides and herbicides, etc.
Triton X-102 X-114	Rohm & Haas Co.	Alkyl aryl polyether alcohol	Detergen; Wetting	Liquid	100%	Nonionic	Metal cleaning, industrial and household cleaners, degreasing; "X-114" is low foam detergent
Triton X-120	Rohm & Haas Co.	Alkyl aryl polyether alcohol	Wetting Dispersant	Powder	40%	Nonionic	Wetting and dispersing agent in agricultural wettable powders
Triton X-138	Rohm & Haas Co.	Modified alkyl aryl polyether alcohol	Detergent Wetting	Liquid	99%	Anionic	Wool scouring, degreasing of leather hides prior to tanning
Triton X-151	Rohm & Haas Co.	Blend of alkyl aryl polyether alcohols with organic sulfonates	Emulsifier	Liquid	Anionic	Used alone or in combination with "Triton X-171" in a wide range of emulsifiable concentrates for agricultural and pest control applications	
Triton X-155	Rohm & Haas Co.	Alkyl aryl polyether alcohol	Wetting Detergent Emulsifier	Liquid	100%	Nonionic	Emulsifying agent for insecticides, herbicides, and spray oils
Triton X-171	Rohm & Haas Co.	Blend of alkyl aryl polyether alcohols with organic sulfonates	Emulsifier	Liquid	Anionic	Used alone or in combination with "Triton X-151" in a wide range of emulsifiable concentrates for agricultural and pest control applications	
Triton X-177	Rohm & Haas Co.	Blend of an alkyl aryl polyether alcohol and a modified phthalic glycerol alkyd resin	Emulsifier	Liquid	Anionic	Emulsification of DDT aromatic solvent systems	
Triton X-188	Rohm & Haas Co.	Alkyl aryl polyether alcohols with emulsion stabilizer	Emulsifier Wetting	Liquid	28%	Anionic	Emulsification of toxaphene, chlordane, all common chlorinated insecticides, and the esters of 2, 4, 5-T and 2, 4-D acids
Triton X-200	Rohm & Haas Co.	Sodium salt of alkyl aryl polyether sulfonate	Detergent Wetting Emulsifier	Liquid	Anionic	Metal cleaning, pickling and plating baths; household cleaning formulae	

## Synthetic Detergents . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Triton X-301	Rohm & Haas Co.	Sodium salt of alkyl aryl polyether sulfate	Detergent Wetting Penetrant Emulsifier Wetting	Paste	20%	Anionic	Household and industrial cleaners
Triton X-400	Rohm & Haas Co.	Stearyl dimethyl benzyl ammonium chloride	Detergent Wetting Penetrant Emulsifier Wetting	Paste	25%	Cationic	Cosmetic grade cationic softener used in cream hair rinses and for other selected cosmetic applications.
Triton 770 Conc.	Rohm & Haas Co.	Sodium salt of alkyl aryl polyether sulfate	Detergent Wetting Penetrant Emulsifier Wetting	Liquid	30%	Anionic	Detergents, waxes, cleaners, rag cooking, general wetting agent and textile processing; degreasing agent on skins prior to tanning
Triton 9X-123	Rohm & Haas Co.	Alkyl benzyl polyethylene glycol ether	Detergent Wetting Emulsifier Wetting	Liquid	100%	Nonionic	Caustic stable detergent for bottle washing, metal cleaning and industrial applications (experimental detergent)
Triumph	Armour & Co.	A built polyoxyethylene ester of fatty acids	Detergent Wetting Emulsifier Solubilizer	Powder	Nonionic	Nonionic	Built low sudsing detergent for laundry use, textile scouring, etc.
Tween 20	Atlas Powder Co.	Polyoxyethylene sorbitan monolaurate	Emulsifier Solubilizer	Liquid	100%	Nonionic	General emulsifier used to solubilize essential oils and vitamins
Tween 21	Atlas Powder Co.	Polyoxyethylene sorbitan monolaurate	Emulsifier Solubilizer	Liquid	100%	Nonionic	Good wetting agent; shorter polyoxyethylene chain than "Tween 20"
Tween 40	Atlas Powder Co.	Polyoxyethylene sorbitan monopalmitate	Emulsifier Solubilizer	Liquid	100%	Nonionic	General emulsifier
Tween 60.	Atlas Powder Co.	Polyoxyethylene sorbitan monostearate	Emulsifier Solubilizer	Liquid	100%	Nonionic	General emulsifier; large application in foods
Tween 61	Atlas Powder Co.	Polyoxyethylene sorbitan monostearate	Emulsifier Solubilizer	Solid	100%	Nonionic	General emulsifier; shorter polyoxyethylene chain than "Tween 60"
Tween 65	Atlas Powder Co.	Polyoxyethylene sorbitan tristearate	Emulsifier Solubilizer	Solid	100%	Nonionic	General emulsifier; large application in foods
Tween 80	Atlas Powder Co.	Polyoxyethylene sorbitan monooleate	Emulsifier Solubilizer	Liquid	100%	Nonionic	General emulsifier; used to solubilize essential oils and vitamins
Tween 81	Atlas Powder Co.	Polyoxyethylene sorbitan monooleate	Emulsifier Solubilizer	Liquid	100%	Nonionic	General emulsifier; shorter polyoxyethylene chain than "Tween 80"
Tween 85	Atlas Powder Co.	Polyoxyethylene sorbitan trioleate	Emulsifier Solubilizer	Liquid	100%	Nonionic	General emulsifier
Twitchell 7231 Oil	Emery Industries, Inc.	Sulfonated mineral oil	Emulsifier Rewetting Emulsifier	Liquid	100%	Anionic	Combined rewetting agent, softener and textile fiber lubricant
Twitchell 7240 Oil	Emery Industries, Inc.	Sulfonated fatty acid derivative	Emulsifier Rewetting Emulsifier	Liquid	100%	Anionic	Combined rewetting agent, softener and textile fiber lubricant
Twitchell 8262 Base	Emery Industries, Inc.	Sulfonated mineral oil	Emulsifier	Liquid	100%	Anionic	Primarily designed to emulsify mineral oils into soluble cutting and grinding oils
Udet-F Series	Universal Detergents, Inc.	Sodium alkyl aryl sulfonate	Dispersant Wetting	Liquid	50% 95%	Anionic	Used to speed up the acid conversion of phosphate bearing rock to super phosphates for fertilizer use
Udet 64	Universal Detergents, Inc.	Sodium alkyl aryl sulfonate	Detergent Wetting	Liquid Powder	50% 95-98%	Anionic	A lower molecular weight product than "Udet" with lower foam power and greater hard surface detergency
Udet 125	Universal Detergents, Inc.	Sodium alkyl aryl sulfonate	Detergent Wetting	Liquid Powder	50% 90-95%	Anionic	A higher molecular weight product with higher foam and greater detergency for textiles
Ultrapole S	Ultra Chemical Works, Inc.	Fatty acid amine condensate	Detergent Emulsifier	Liquid	97-100%	Nonionic	Water soluble in all proportions; thickening and foam stabilizer; base for liquid detergents, compatible with soap
Ultrapole G Extra Conc.	Ultra Chemical Works, Inc.	Fatty acid amide condensate	Detergent	Liquid	98-100%	Nonionic	"Ultrapole G" is a modified "Ultrapole S" which will tolerate substantial quantities of alkali when made up into stock solutions; primarily used in textile processing
Ultrapole DL	Ultra Chemical Works, Inc.	Lauroyl diethanolamine amide	Emulsifier	Liquid	100%	Nonionic	Dry cleaning compounds
Ultravon JF	Ciba Co	Polyether alcohol	Detergent Emulsifier Dispersant	Liquid	33%	Nonionic	Detergent for the scouring of wool and other fibers; dyeing assistant for wool

# Synthetic Detergents . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Ultrawet DS	Atlantic Refining Co.	Alky benzene sodium sulfonate	Detergent Wetting	Flake	85%	Anionic	Medium molecular weight; better solubility than "Ultrawet K" series
Ultrawet K	Atlantic Refining Co.	Alky benzene sodium sulfonate	Detergent Wetting	Flake	85%	Anionic	High molecular weight; high foam and detergency
Ultrawet SK	Atlantic Refining Co.	Alky benzene sodium sulfonate	Detergent Wetting	Bead	35%	Anionic	"Ultrawet K" base plus sodium sulfate
Ultrawet 30 DS	Atlantic Refining Co.	Alky benzene sodium sulfonate	Detergent Wetting	Liquid	25.5%	Anionic	Liquid foam or "Ultrawet DS"
Ultrawet 35 KX	Atlantic Refining Co.	Alky benzene sodium sulfonate	Detergent Wetting	Liquid	31.5%	Anionic	Liquid slurry; form of "Ultrawet"
Ultrawet 60L	Atlantic Refining Co.	Alky benzene sulfonate of an organic salt	Detergent Wetting	Liquid	60%	Anionic	A shampoo and household detergent base material; very low in inorganic salts
Unitex	Commonwealth Color and Chemical Co.	Sodium salt of alkylate aromatic sulfonate	Detergent Wetting		27%		Textiles
Vatsol	American Cyanamid Co.	Same as corresponding Aerosols	Wetting Dispersant		100%	Anionic	This name applies to Aerosols when sold through the insecticide department of American Cyanamid Co. Otherwise identical: "Vatsol OT" is same as "Aerosol OT" and "Vatsol OS" is another name for "Aerosol OS".
Vel (retail)	Colgate-Palmolive Co.	An alkyl aryl sodium sulfonate	Detergent Wetting	Powder	31%	Anionic	Household, dishes, fine fabrics, woolens, rugs, etc.
Velva Soft	Armour & Co.	Quaternary ammonium compound	Softener Germicide Anti-static agent	Liquid Paste		Cationic	Softening, fluffing, germicide and antistatic agent for laundries and textile lubricant; mold inhibiting
Veripon	Protean Chemical Corp.	A hydrolyzed protein condensation product with a fatty acid derivative	Detergent Wetting	Liquid	42%	Anionic	A high foaming detergent, stable in hard water and alkali, but not stable in acid; textiles and other industrial applications
Veripon-Cosmetic	Protean Chemical Corp.	A hydrolyzed protein condensation product with coconut oil fatty acids	Detergent Wetting	Liquid	44%	Anionic	A shampoo and cosmetic base material
Veriset	Veriset Corp.		Dispersant	Liquid			A water soluble liquid added to the extent of 2-4 ounces per bag of Portland cement to increase bonding and compressive strength
Versene -Fe-3	Dow Chemical Co. (Formerly Versenes, Inc., subsidiary of Dow Chemical Co.)	Sodium salt of ethylenediamine tetra acetic acid	Dispersant Sequesterant	Liquid	34%	Anionic	A diamine tetra carboxylic acid salt forming a chelate ring with a large number of metallic ions; for sequestering divalent ions. "Versene Fe-3" is the sodium salt of a carboxymethylated amine in liquid (34% active) or solid (100% active powder) form used for sequestering divalent and also trivalent ions particularly iron
Versene 9 Pdr. OL	Dow Chemical Co. (Formerly Versenes, Inc., subsidiary of Dow Chemical Co.)	Trisodium salt of ethylene diamine tetra acetic acid	Sequesterant	Solid Powder	100%	Anionic	
Victamine C	Victor Chemical Works	Substituted amide of alkyl phosphate	Emulsifier	Liquid	100%	Cationic	Textile softening agent; also available in dispersed form at lower concentration



# Synthetic Detergents . . .

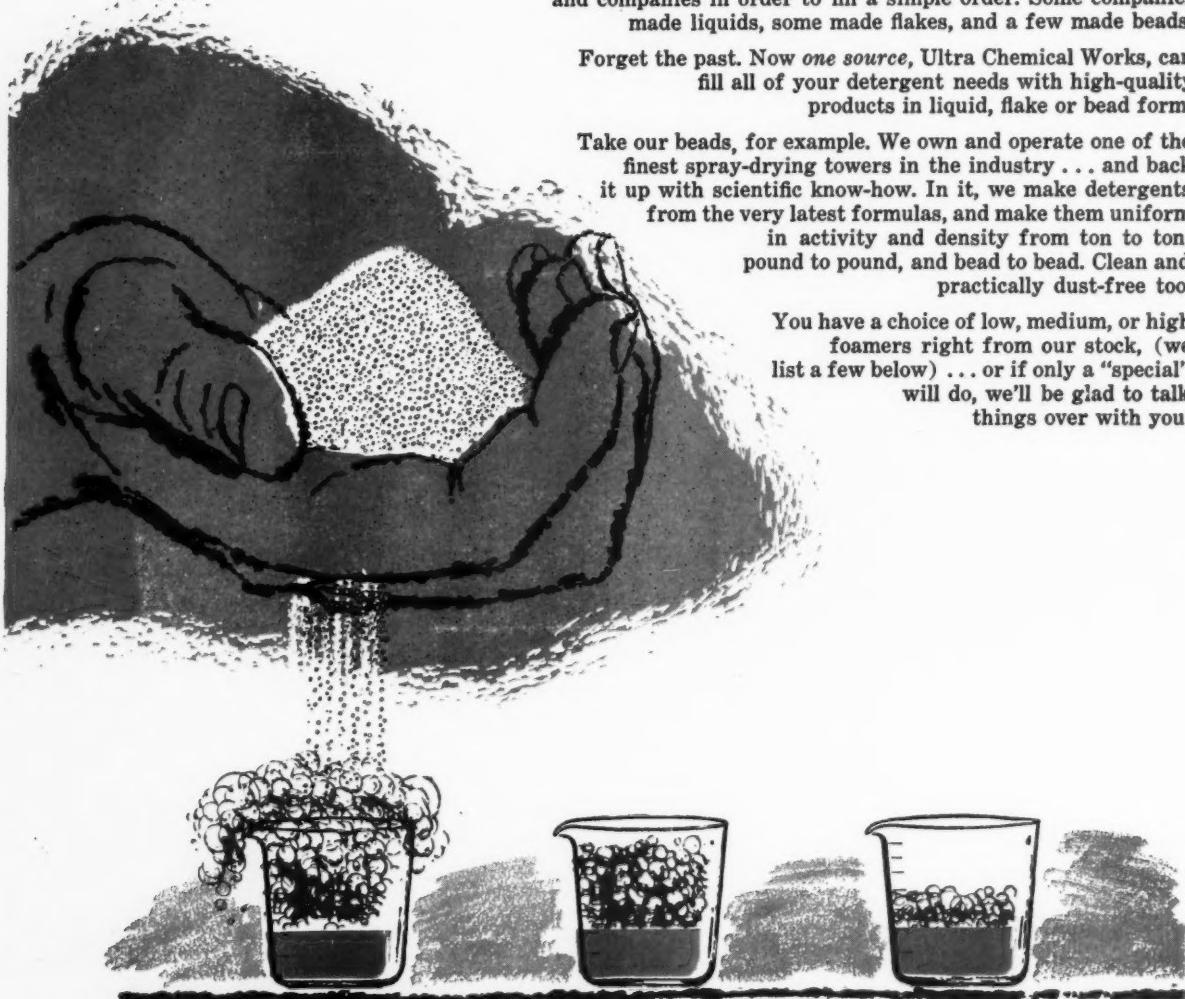
Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Victamine D	Victor Chemical Works	Same as "Victamine C" except R= $C_6H_{13}$	Emulsifier	Solid Wax	100%	Cationic	Textile softening agent; oil additive for antistain properties; also available in predispersed form
Victamul 20 24C 27 89 116C	Victor Chemical Works	Organic phosphate esters	Emulsifier	Liquid and Solid	100%	Nonionic	A series of compounds varying in water and organic solvent solubility; use: petroleum industry
Victawet 12 14	Victor Chemical Works	OR' R=medium alkyl group OR'=water solubilizing group (octyl), Na <sub>2</sub> (P <sub>2</sub> O <sub>8</sub> ) <sub>2</sub> octyl=2-ethyl hexyl	Wetting Penetrant Dispersant	Liquid	100%	Nonionic	Packaged dyeing of nylon, acid type cleaners, starch coatings; non-foaming; "Victawet 14" is similar to "12" with a molecular weight of about 500
Victawet 35B 35BPI	Victor Chemical Works	Phosphorated higher alcohol (Capryl), Na <sub>2</sub> (P <sub>2</sub> O <sub>8</sub> ) <sub>2</sub>	Wetting Penetrant	Paste	70%	Anionic	Textiles, particularly vat dyeing; non-forming; "Victawet 35BPI" is a blend of anionic and nonionic products; Pilot plant scale Penetrant, providing moderate foam
Victawet 58B	Victor Chemical Works	Phosphorated higher alcohol (Capryl), Na <sub>2</sub> (P <sub>2</sub> O <sub>8</sub> ) <sub>2</sub>	Wetting Dispersant Penetrant	Paste	70%	Anionic	Textiles, particularly vat dyeing; non-forming; "Victawet 35BPI" is a blend of anionic and nonionic products; Pilot plant scale Penetrant, providing moderate foam
Vulnamol.	Advance Solvents & Chemical Corp.		Dispersant	Powder			A dispersant for use in the rubber industry, in latex paints
Warco A-229 A-235	Warwick Chemical Co., a division of Sun Chemical Corp.	A compounded product containing the amine salt of a sulfated fatty alcohol as the active ingredient	Detergent	Liquid	60%	Anionic	A built product designed for repackaging as a dishwashing compound, shampoo, fine fabric detergent, etc.; "Warco A-235" is a specially designed for the dry cleaning trade.
Warco A-266	Warwick Chemical Co., a division of Sun Chemical Corp.	Sodium lauroyl sarcoside	Detergent Foaming	Liquid	35%	Anionic	"A-261" is a hard wax fatty alkanoamide used as a foam stabilizer and as a synergist for other detergents; approved by FDA for dentifrice use
Warco A-266T	Warwick Chemical Co., a division of Sun Chemical Corp.	Sodium lauroyl sarcoside	Detergent Foaming	Liquid	35%	Anionic	Especially useful for high foaming detergents such as shampoos and aerosol shaving foams; has corrosion inhibiting properties
Warco A-288 A-288 Conc.	Warwick Chemical Co., a division of Sun Chemical Corp.	Low molecular weight quaternary	Anti-static	Liquid	18%/ 70%	Cationic	Effective anti-static agent for various types of surfaces
Warco Amine #4	Warwick Chemical Co., a division of Sun Chemical Corp.	Fatty imidazoline	Liquid	100%	Cationic	Corrosion inhibitor for ferrous metals	
Warco Amines 1, 2, 3	Warwick Chemical Co., a division of Sun Chemical Corp.	Higher fatty imidazolines	Detergent Penetrant	Paste	100%		Use: acid cleaners, anti-static agents
Warcolene 350	Warwick Chemical Co., a division of Sun Chemical Corp.	Glyceryl monostearate	Dispersant Softener	Paste	25%	Nonionic	Textile softener resistant to scorching and oxidation
Warcolene W	Warwick Chemical Co., a division of Sun Chemical Corp.	Sulfated fatty acid ester	Wetting Rewetting Softener	Liquid	70%	Anionic	Resistant to oxidation and discoloration; assists in sanitizing
Warcosol NM-9	Warwick Chemical Co., a division of Sun Chemical Corp.	Alkyl polyethylene glycol ether	Wetting Penetrant Dispersant	Liquid	90%	Nonionic	Resistant to acids, alkalis, and other electrolytes; very pronounced wetting and rewetting effects

# Synthetic Detergents . . .

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Warcosol NF	Warwick Chemical Co., a division of Sun Chemical Corp.	Sulfated ester	Wetting	Liquid	13%	Anionic	Textiles; dyeing with vat colors
Warcosol 60T	Warwick Chemical Co., a division of Sun Chemical Corp.	Alkyl naphthalene sodium sulfonate	Wetting	Liquid		Anionic	Textiles; wetting and penetrating
Warkeolate S-42 S-43 PS-47	Warwick Chemical Co., a division of Sun Chemical Corp.	Tetra sodium ethylene diamine tetra acetate	Sequesterant-Dispersant	Liquid Powder	27% 41% 100%	Anionic	Sequestrers all polyvalent metals over wide pH range; softens water; clarifies and stabilizes liquid soaps, beer, and other materials which are readily contaminated by trace elements useful for preparation of amine or ammonia salts of EDTA as well as other applications where the free EDTA acid is required
Warkeolate Acid	Warwick Chemical Co., a division of Sun Chemical Corp.	Ethylenediamine tetra acetic acid	Dispersant Stabilizer	Powder	100%	Anionic	General purpose for creams, leather, paper, etc.
Wetanol	Glyco Products Co.	Isocapric sodium salt of sulfated fatty alcohol	Penetrant Wetting Penetrant	Solid Liquid	45% 65%	Anionic	Textiles, paper; "Wetsit W-1086M" is a concentrated salt free form for use as a car or window cleaner
Wetsit Conc. W-1086M	Jacques Wolf & Co.	Sodium salt of dodecyl benzene sulfonate	Detergent Wetting	Liquid	30%	Nonionic	Good lathering; viscosity is maintained on dilution
Wetsyn	E. F. Drew & Co.	A secondary amide of lauric acid	Wetting	Liquid	35%	Anionic	Textiles, wetting and leveling
Wicasan PB	Wica Chemicals, Inc.	Sulfated ester	Wetting	Liquid	90%	Anionic	Textiles, dyeing, bleaching and scouring assistant
Wicatex K	Wica Chemicals, Inc.	Fatty acid condensate	Wetting Detergent	Liquid	50%	Anionic	Textiles, dyeing, bleaching and scouring assistant
Wicatex 1000	Wica Chemicals, Inc.	Modified highly sulfated vegetable oil	Wetting Leveling	Liquid			
Wicawet TC RO	Wica Chemicals, Inc.	Alkyl aryl sodium sulfonate	Wetting Penetrant	Liquid	30%	Anionic	Textiles, package drying and wet processing; "Wicawet RO"—textiles, particularly jig dyeing
Wilco DGL Wilco DGO Wilco GMO Wilco 77	Wilco Chemical Co. Wilco Chemical Co. Wilco Chemical Co. Wilco Chemical Co.	Diethylene glycol laurate Diethylene glycol oleate Glycerol monooctate Blend of poly alcohol carboxylic acid esters and oil soluble sulfonate	Emulsifier Emulsifier Emulsifier Emulsifier	Liquid Liquid Liquid Liquid	100% 100% 100% 100%	Nonionic Nonionic Nonionic Nonionic	Emulsion paints, lubricant, general emulsifier General emulsifier Alkyd resin paints, pour point depressant Emulsifier in the preparation of polyurethane elastomers
Wixyn Double	Wica Chemicals, Inc.	C <sub>11</sub> H <sub>23</sub> CON(CH <sub>2</sub> CH <sub>2</sub> SO <sub>3</sub> Na) <sub>2</sub>	Wetting Detergent	Liquid	42%	Anionic	Textiles, all-purpose detergent
Wixyn NC Wixyn 100	Wica Chemicals, Inc. Wica Chemicals, Inc.	Fatty alkanolamide Fatty alkanolamide	Wetting Detergent Dispersant	Liquid Liquid	90% 100%	Nonionic Nonionic	Textiles, naphthalene dyeing assistant Textiles, dyeing, bleaching and scouring assistant
Xylenesulfonate, Sodium Salt	Pedlow-Nease Corp.	As named	Hydro trope	Solid	95%	Anionic	Also available in a 40% active solution
Xyno Cation RO	Onyx Oil & Chemical Co.	A high molecular weight tertiary amine	Emulsifier Detergent	Liquid	100%	Cationic	Emulsifier for agricultural pesticides, dry-cleaning detergent
Xynomine Powder 91	Onyx Oil & Chemical Co.	Sulfonated fatty acid condensate	Detergent Wetting	Powder		Anionic	Textile processing, household detergent, burnishing compound formulations; also available in paste form as "Xynomine Paste" 33% conc.
Zelec NE NK UN	E. I. du Pont de Nemours & Co.	Fatty alcohol phosphate compositions	Anti-static	Paste	100%	Anionic	Antistatic for processing textiles and plastics.
Zephiran	Winthrop-Stearns, Inc.	Alkyl dimethyl benzyl ammonium chloride	Germicide	Liquid	13%	Cationic	A refined product in aqueous solution (12.8%) and in alcohol solution (0.1% conc.)

(Manufacturers whose products are listed appear on page 191)

# NOW! one source to fill all of your needs for Detergent Liquids... Flakes... Beads



Time was when detergent users had to sort through catalogs and companies in order to fill a simple order. Some companies made liquids, some made flakes, and a few made beads.

Forget the past. Now *one source*, Ultra Chemical Works, can fill all of your detergent needs with high-quality products in liquid, flake or bead form.

Take our beads, for example. We own and operate one of the finest spray-drying towers in the industry . . . and back it up with scientific know-how. In it, we make detergents from the very latest formulas, and make them uniform in activity and density from ton to ton, pound to pound, and bead to bead. Clean and practically dust-free too.

You have a choice of low, medium, or high foamers right from our stock, (we list a few below) . . . or if only a "special" will do, we'll be glad to talk things over with you.

#### Sulframin® AB-40 Beads

A neutral sodium alkyl aryl sulfonate detergent, wetting and emulsifying agent of the forty per cent active type. High foaming. Available in three densities: .137, .2, .3. All are of uniform activity and density... free flowing so they blend readily with other materials.

#### Sulframin® HD Beads

A spray-dried alkyl aryl sulfonate blended with complex phosphates and organic chemicals for high detergent value. Medium foaming characteristics. Very effective in hard water. Includes a white dyestuff for extra brightness when laundering cottons.

#### Neopone LO

A spray-dried non-ionic, low foaming detergent. Especially designed for top results in tumbler or agitator type automatic washers. Loosens imbedded grime quickly and efficiently. Low suds don't interfere with machine action.

\*T. M. Reg. U. S. Pat. Off.

ULTRA CHEMICAL WORKS, INC.  
P.O. Box 2150, Dept. SC-10, PATERSON, N. J.  
Please send samples and quotations on

- Neopone LO     Sulframin HD Beads  
 Sulframin AB-40 Beads

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_

Ultra Chemical Works, Inc.

Joliet, Ill.

PATERSON, N. J.

Hawthorne, Calif.



T  
h  
e  
r  
u  
t  
o  
r  
®\*

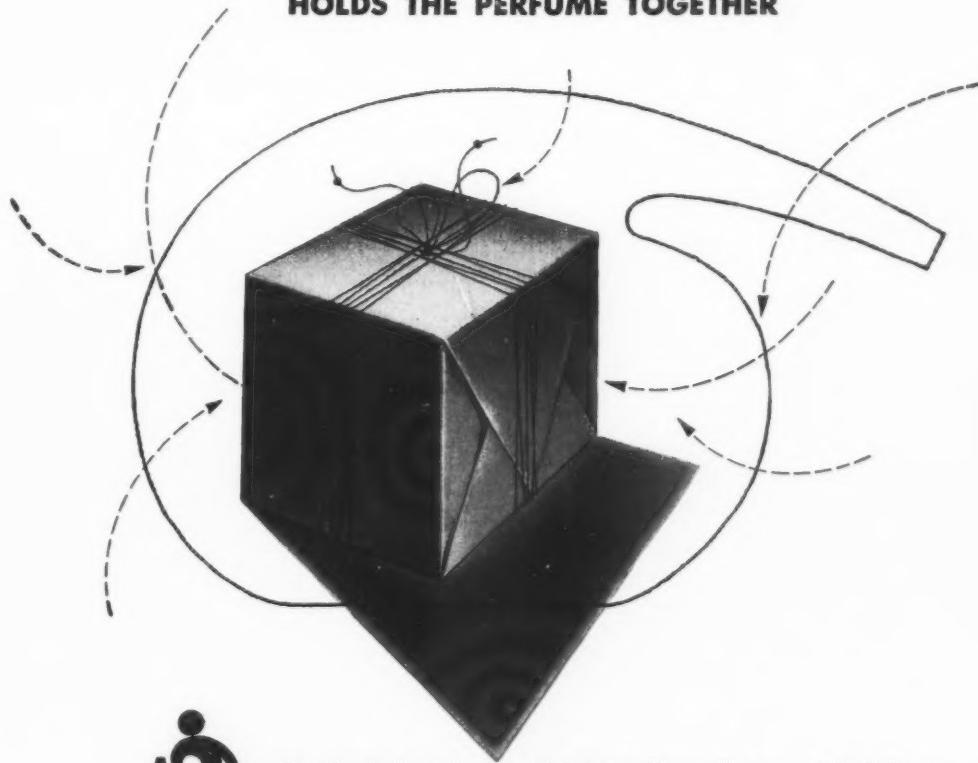
**THE  
new  
aromatic chemical  
musk-tonkin type  
lasting, economical**

Useful addition to present standard fixatives

Does not discolor perfumes, creams, soaps, and  
other cosmetic preparations

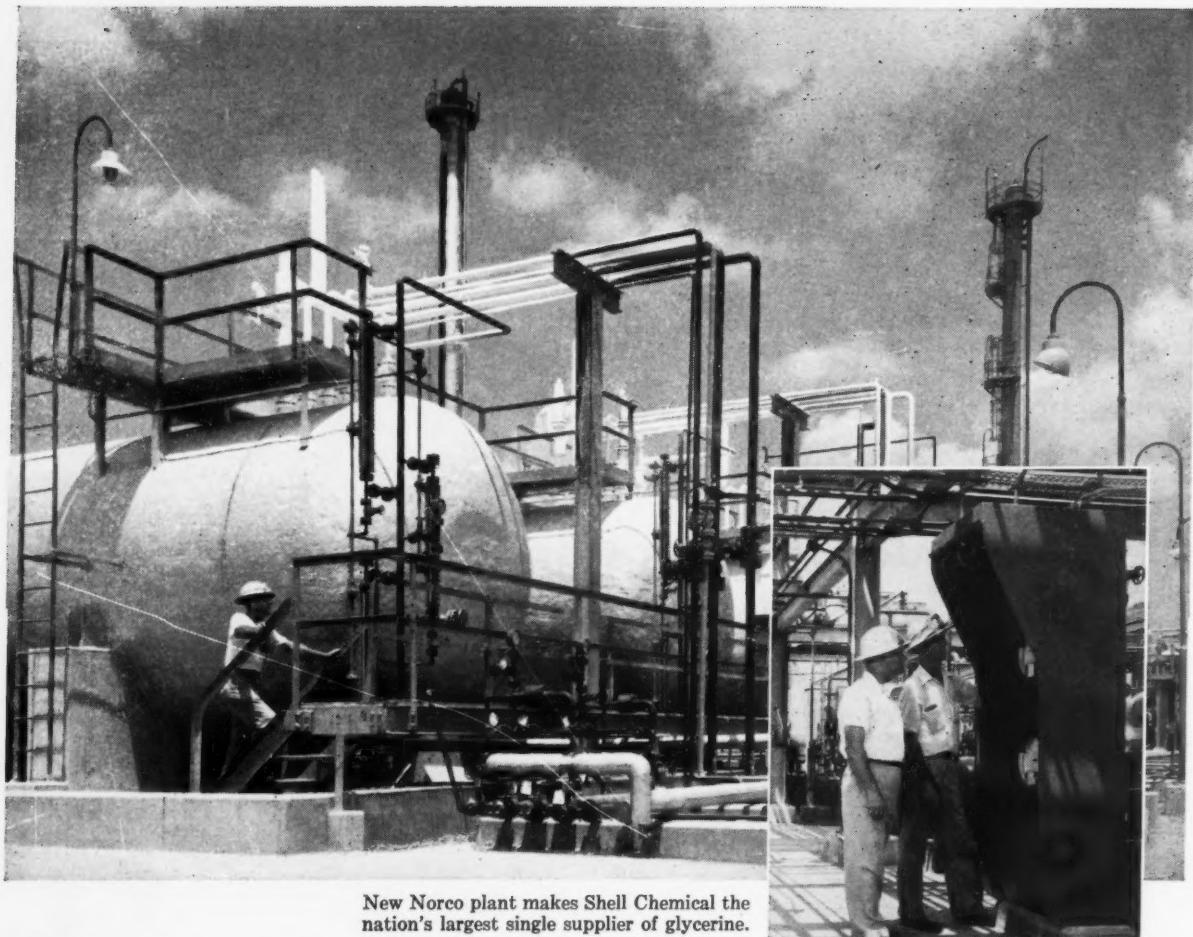
*Like a string around a package, it...*

**HOLDS THE PERFUME TOGETHER**



**Polak's Frutal Works, Inc., Middletown, New York**

\*Domestic and Foreign Patents applied for.



New Norco plant makes Shell Chemical the nation's largest single supplier of glycerine.

# More Glycerine *on stream!*

**Seven years ago**, Shell Chemical startled industry with this news . . . high-purity *synthetic* glycerine, produced from petroleum, in commercial quantities!

Now . . . more good news for glycerine buyers! A new plant (Norco, Louisiana) is now on stream, adding further to the supply of uniform, high-purity glycerine.

And looking toward the future, Shell Chemical is building a plant for *an entirely new synthetic glycerine process*, using hydrogen peroxide and acrolein as raw materials.

Whether your glycerine requirements are small or large . . . a drum or a tank car . . . Shell's key storage facilities assure prompt delivery. Write for delivery information and specifications.

## SHELL CHEMICAL CORPORATION

CHEMICAL PARTNER OF INDUSTRY AND AGRICULTURE

380 Madison Avenue, New York 17, New York

Atlanta • Boston • Chicago • Cleveland • Detroit • Houston • Los Angeles • Newark • New York • San Francisco • St. Louis  
IN CANADA: Chemical Division, Shell Oil Company of Canada, Limited • Montreal • Toronto • Vancouver



Here's how white becomes whiter

when you use

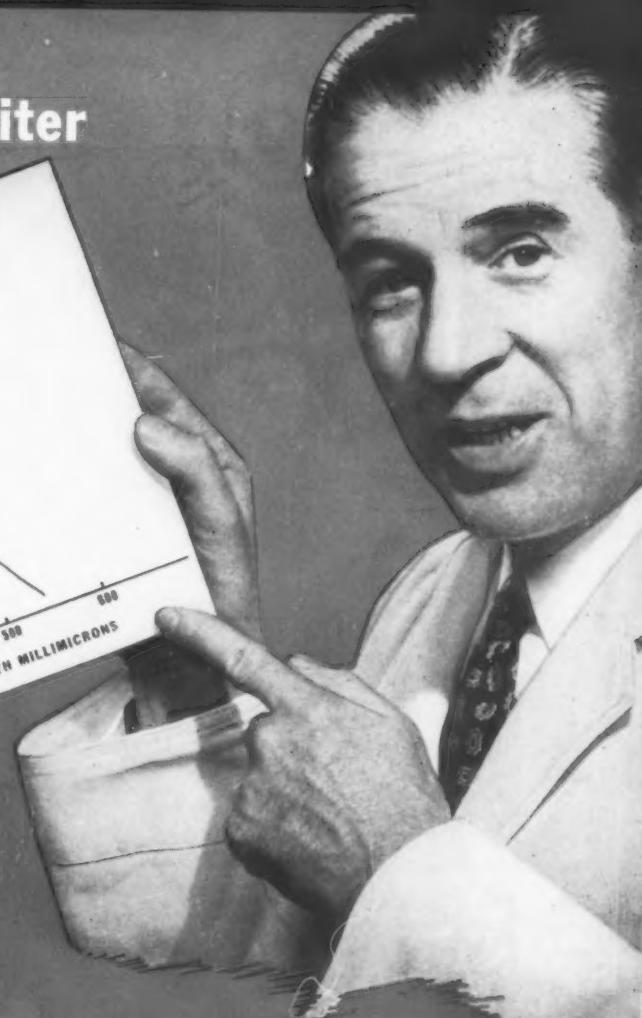
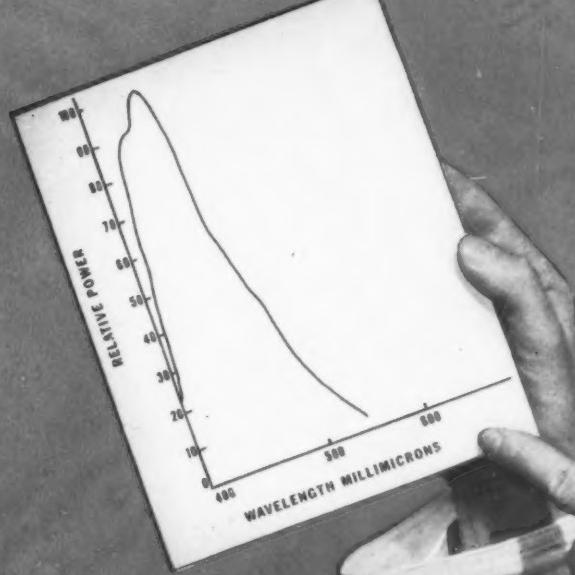
# CALCOFLUOR\*

## whitening agents

The graph shown above is a spectroradiometric curve. It shows the pure, blue, bright light which a CALCOFLUOR Whitening Agent emits in daylight when a cotton fabric is laundered in a detergent or soap containing this optical bleach.

The blue light of a CALCOFLUOR Whitening Agent added to the cloth reflectance makes the white appear whiter. Good leveling characteristics and excellent fastness to hypochlorite characterize the CALCOFLUOR Whites. Suitable application properties can be obtained by the proper selection from the CALCOFLUORS listed below:

CALCOFLUOR WHITE B Conc.  
CALCOFLUOR WHITE MR New  
CALCOFLUOR WHITE 4B Conc.  
CALCOFLUOR WHITE 2R Conc.  
CALCOFLUOR WHITE M2R New  
CALCOFLUOR WHITE SD  
CALCOFLUOR WHITE LD



\*Trade-mark

Hue of White on Fabric	Bleach Fastness	Effect on Color of Soap Product	Substantivity
neutral blue	good	slight yellowing	cotton, viscose
slightly reddish blue	fair	whitens	cotton, viscose
slightly greenish blue	excellent	no effect	cotton, viscose
slightly reddish blue	good	slight yellowing	cotton, viscose
slightly reddish blue	fair	whitens	cotton, viscose
neutral blue	fair	strong whitening	nylon, acetate, wool, orlon
neutral blue	fair	strong whitening	nylon, acetate, wool, orlon

Write for further details and samples

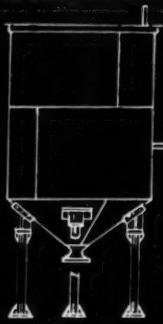
NORTH AMERICAN CYANAMID LIMITED  
DYESTUFF DEPARTMENT  
MONTREAL AND TORONTO



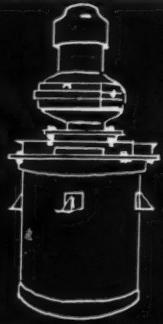
AMERICAN Cyanamid COMPANY

DYESTUFF DEPARTMENT  
BOUND BROOK, NEW JERSEY

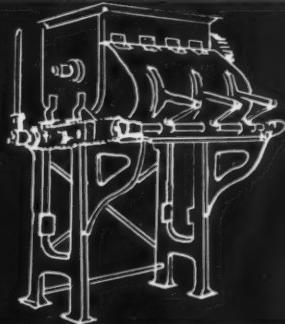
NEW YORK • CHICAGO • BOSTON • PHILADELPHIA • CHARLOTTE  
PROVIDENCE • ATLANTA • LOS ANGELES • OAKLAND • PORTLAND, OREGON



KETTLES



CRUTCHERS



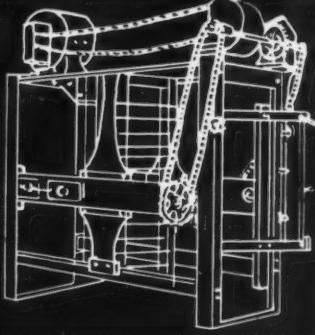
AMALGAMATORS

## Making Good Soap BETTER, for 114 Years

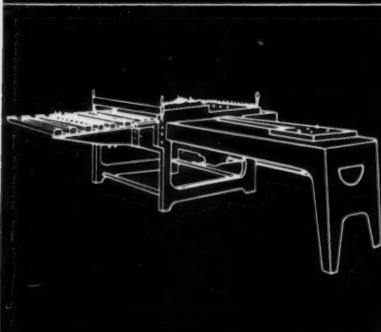
114 years ago Houchin started producing soap making machines.

Practically all basic soap making machinery today is derived from original Houchin inventions.

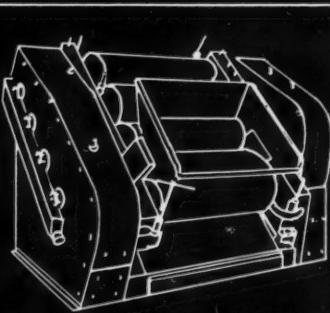
Look to Houchin for further revolutionary improvements.



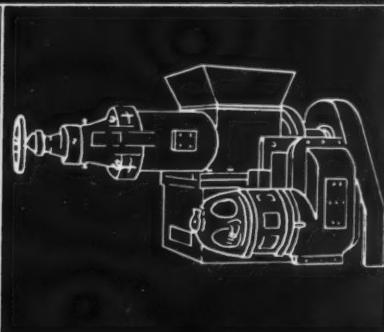
SLABBERS



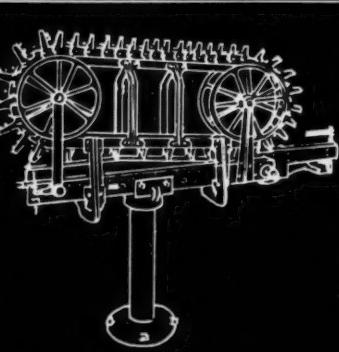
LAUNDRY SOAP CUTTERS



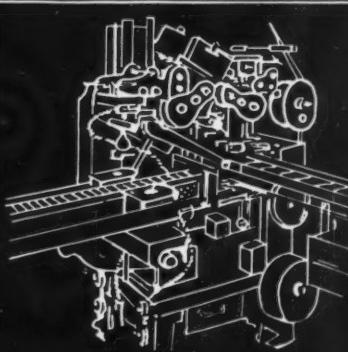
MILLS WITH GRANITE OR CHILLED IRON ROLLS



PLODDERS

CONTINUOUS SCRAPLESS  
ADJUSTABLE TOILET SOAP CUTTERS

PRESSES—FOOT OR AIR OPERATED



WRAPPERS FOR ALL SIZES OF SOAP

**HOUCHIN MACHINERY CO., INC.**

HAWTHORNE,  
NEW JERSEY, U.S.A.

# Production SECTION

## Improving Soap Flakes

**S**OAP flakes are associated in the housewife's mind with purity, quality and extreme mildness. To conform to such high standards soap flakes must match appearance with performance. Of milky transparent appearance, supple and thin, the flakes must resist breakage in the package. A transparent package is suggested by the author to capitalize on the flakes' delicate and attractive appearance. The product must be neutral, dissolve rapidly, foam well, and never contain fillers. Correct fat charge and milling will take care of transparency. The nature of the fat charge also controls foaming properties and rapid solubility. The latter is also influenced by the thickness of the flake. Suppleness and resistance to breakage depend on the fat charge which should be partially saponified by caustic potash. All these desirable properties can be enhanced and assured by the presence of certain additives to be studied later.

### Fat Charges

**T**ALLOW might well be described as the soap maker's primary fatty raw material. But white bleached palm oil or faultlessly distilled palm oil fatty acid are also eminently suitable for this type soap. Lard should not be used in excess of 15 percent. A minimum of 25 percent coconut or palm kernel oil should be included for foaming power and rapid solubility of the end product. Palm kernel oil offers the added advantage of imparting a fresh pleasant odor to flakes and the clothes being washed. However, if perfume is used in the

### Use of additives, supplemented by emulsifier and dispersant, aids saponification; improves transparency; increases detergency, foaming power, plasticity and resistance to breakage

flakes palm kernel content should not exceed five percent. While castor oil improves suppleness, it requires separate saponification. Several other oils, such as olive and best grade peanut are suggested for inclusion in the batch. Olive kernel oil (*Sulfurolivenoel sic.*) may also be used if previously bleached with sodium chlorite (80 percent). In some instances this oil can be bleached almost white, but a slight green cast would give the flakes a novel appearance that many would find pleasing. If hydrogenated oils are used (not marine oils) their titer must not exceed 30°C, otherwise the oil content and plasticizing additives must be increased to restore balance. All other fatty substances not mentioned above should be avoided.

Faultless, durable soaps can be made with distilled fatty acids replacing the neutral oils. But the acids must be derived from known and suitable starting materials; must be free from unsaponifiable matter (plus or minus two percent) and from oxidized or highly unsaturated fatty acids. Beautiful flakes can be made from stearin and olein, provided they are derived from such fats as tallow, palm oil or bone fat. Care must be taken to balance the stearin content against the tallow. As an alternative, 50 percent stearin and 50 percent olein can be

used which corresponds to the titer of tallow. If a preponderance of olein (titer 10°) is used it will replace other oils. Olein is traded in titers ranging from five to 30° and, according to the choice of titer within this range, balance must be restored by reduction of other oils in the charge or by an increase of the tallow or of the lauric acid fats group which yield a hard soap.

The following charges are suggested by the author: (A.) tallow, 55 percent; lauric acid group (*Leimfette*) 25 percent; olive oil, 10 percent; castor oil, 10 percent; (B.) tallow, 40 percent; lauric acid group, 33 percent; olive oil, 15 percent; and castor oil, 12 percent; (C.) stearin, 25 percent; olein (15-20°C) 40 percent; castor oil, 10 percent; lauric acid group, 25 percent; (D.) tallow, 60 percent; lauric acid group, 25 percent; and castor oil, 15 percent; (E.) lauric acid group, 60 percent; castor oil, 30 percent; and oil, 10 percent.

While charge E has not yet been tried by the author he believes that it, like the other combinations, will result in an excellent flake. E should be worked by the semi-boiled or by the cold process, without coagulation.

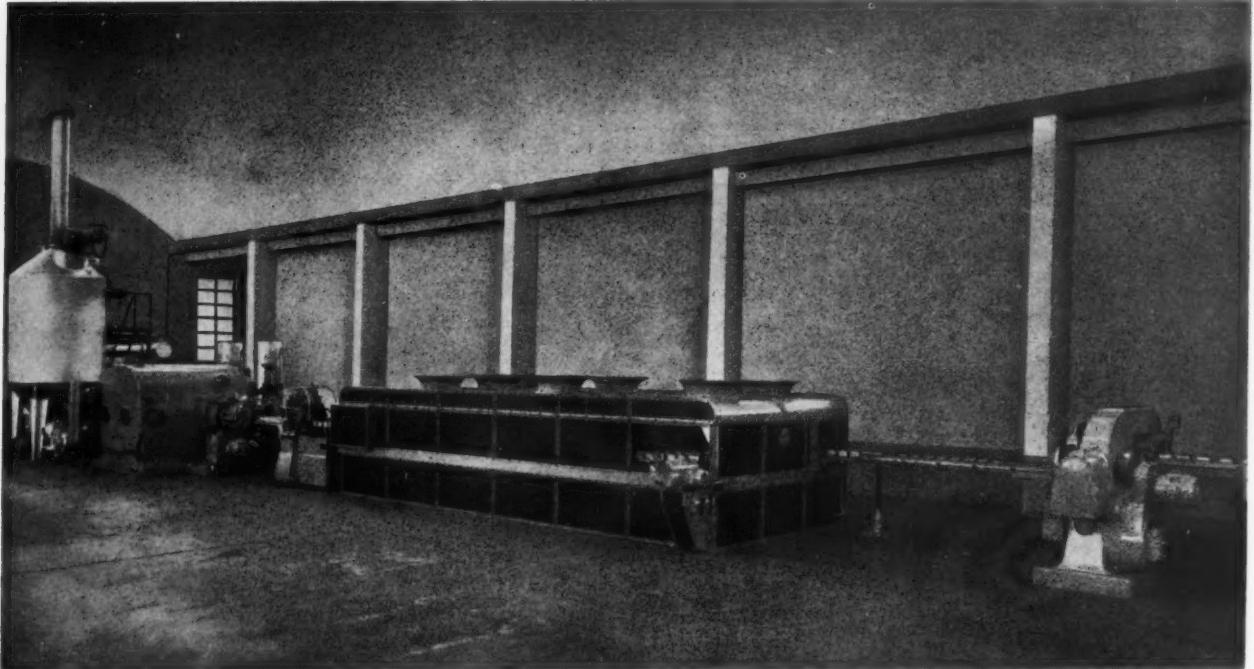
Whenever castor oil is used, it must be saponified separately with potassium hydroxide and then fed into the mass in the kettle. About



# MECCANICHE MODERNE

CORSO SEMPIONE, 51

BUSTO ARSIZIO (ITALY)



A Fully automatic and continuous type "PISONI SAIX" plant manufacturing 2 tons per hour of plodded laundry soap.

*Ditta Alvaro Gori*

FABBRICA SAPONI LISCIVE E AFFINI

Telefonos:  
ALVARO GORI - Montebelluna  
U.P.I.C. n. 11117  
Stabilimento  
SEDE: Via Antonio Grassi  
SUCCHIALE: Via Cesario, 16/18  
Teléfono n. 87

Maurerach  
teAtura

Il Maurerach 21 Febbraio 1955

SPLTT/DITTA  
MECCANICHE MODERNE  
C.so Sempione, 51  
BUSTO ARSIZIO  
(Varese)

In seguito a Vs. richiesta siamo lieti di comunicarVi che il Vs. impianto "SAIX" funziona dal mese di agosto 1954 producendo sapone puro al 62-63%, sapone secco trasparente al 72% ed anche tutti gli altri saponi promessi con Vs. garanzia. La produzione oraria dell'impianto corrisponde perfettamente a quella da Voi garantita ed il funzionamento dell'impianto è ineccepibile.

Siamo a Vs. disposizione per fare visitare l'impianto in funzione e confermare ai Vs. clienti la nostra soddisfazione.  
Gradite cordiali saluti.

*Essentiel  
ALVARO  
Gori*

NOTE: The output may be increased up to 3 tons per hour if sufficiently cold water is available and a "Marseille" type of soap, guaranteed pure with 62-63% T.F.A. content, is being manufactured.

## CHARACTERISTICS

- It is the only plant on the market cooling soap with simultaneous forming of a continuous bar, maintaining unchanged total fatty acids contents of liquid soap.
- Our SAIX plodder is the only plodder on the world market which, working without any endless screw, can plod soaps made with fats having a high or low melting point, even if containing high percentages of water or builders, namely:
  - pure soaps having 62-63% F.T.A.;
  - soaps having T.F.A. contents from 35% up to 62-63%
  - dry, pure or filled soaps having T.F.A. contents from 35% up to 70-72%;
  - transparent dry laundry soaps having 70-72% T.F.A.;
  - transparent toilet soaps having 70-72% T.F.A. Soaps with 100% coconut oil.
- *Savings:* steam 100% — labor 70% — water 50% — power 50% A fully automatic and continuous operation starting from liquid soap to stamped finished cakes ready for packing.
- Only one workman to run the plant — small space requirements — absolutely no scraps.
- Soap perfumation automatically done by means of a volumetric proportioning pump.
- Highly increased foaming capacity — cakes undergo no deformation during storage.
- Less moistening of the packed highly water filled cakes.
- These plants are manufactured for the following output capacities: 0.5 — 1 — 2 — 3 tons per hour.
- We also manufacture:  
Complete plants for making toilet soaps and chips (cooling rollers — drying equipment — silos — weighing machines — mixing machines — milling machines — normal and vacuum plodders having one, two or three endless screws — cutting machines and stamping machines).
- Complete plants for soap powders and granules or synthetic detergent beads (continuous sulphonating equipment, spray drying equipment).  
Thirty years' experience in making soap machines.  
Free and without obligation: tenders — references — plant inspections and soap samples.

10 percent of the lauric acid fats should also be saponified with KOH prior to graining, because at that stage the change of KOH soap to NaOH soap does not take place at the rate prevailing later in the complete settling out of the curd on the spent lye.

### Milling

**F**LAKES are usually milled on cool, highly polished steel rollers on which the soap is cooled to 25 to 27°C. Sufficient alkali must be present in the soap so that it will not turn sour by the blowing of the dryer. When leaving the dryer the batch should have a water content of plus/minus ten percent which corresponds to 80 percent fatty acid content. Once the ratio has been established, it is more convenient to check the water content by the phenol method rather than the fatty acids.

Some time ago the author had at his disposal an older flaking machine as well as a modern one. Hot water was used in the older machine which heated the mass close to softening temperature. This was followed by immediate cooling on the new unit. This procedure resulted in very good flakes of outstanding transparency. The procedure is worth testing further. The author got the idea from a paper by two Japanese investigators published in the "Seifensiederzeitung" many years ago. A similar principle is used in the "Maix" and "Mazzoni" systems.

### Additives

**V**ARIOUS additives are suggested for improvement of soap flakes. Cellulose compounds such as CMC, tylose SAP and HB, enhance suppleness and foaming power while reducing the effects of free alkali. The author advocates addition of one to two percent of stiff 10 percent tylose solution in the mixer. The presence of acid castor oil sulfonate aids in the manufacture of a neutral soap without causing rancidity. "Tl 4 N" (polyglycol compound) should be considered as

a potential aid towards plasticity and transparency.

The effect of the above additives is supplemented by the action of an emulsifier and dispersant called "Permulgin." This product is described as comprising 10 percent sodium fatty alcohol sulfonates; 25 percent fatty alcohols; 55 percent fatty acids (saponification number 100) two percent sodium sulfonate, and eight percent water. The acids are esterified with alcohols which, having been liberated in saponification, act similar to glycerin in saponification of neutral fats. However, the alcohols remain in the soap, whereas the glycerin goes into the lye. (In a verbal communication by another source "Permulgin" was described as a sulfonated sperm oil product.—Ed.)

These alcohols in isolated form have long been used as superfatting agents and ointment bases. In this new product they are offered at a price of interest to the soap maker. While the additive is a little more expensive than fats this difference is easily offset by the use of sodium carbonate as a filler. Kept within reasonable limits this has no adverse effect provided it is added in the mixer.

The effects of "Permulgin" are summarized as providing: 1. faster initial saponification by emulsification of the entire fat charge, but somewhat more difficult final saponification of the additive; 2. emulsification of lime soap during laundering; 3. an increase in detergency of the soap; 4. increased foaming power (permitting a reduction in lauric group fats); 5. improved transparency; 6. mildness of soap even in presence of excess alkali; 7. considerable benefit to skin and fibers (superfatting effect); 8. plasticity; and 9. resistance to breakage.

An addition of from five to 15 percent of "Permulgin" according to the titer of the fats is suggested. A combination of the emulsifier with "Tl 4 N" is said to produce excellent results. The product can be added to the fat charge and

saponified with it, but its presence requires extra care in the saponification procedure. The full saponification method with globular curd formation (*Globularleim-Vollverseifungs-Verfahren*) is considered the safest. A larger amount of excess alkali must be left when the batch is grained. The presence of the lauric acid fats is essential because "Permulgin" cannot form a homogeneous soap without them.

Whenever it is desirable to saponify "Permulgin" separately it is heated to 80°C, the correct amount of lye added with stirring, and the temperature maintained. If the mixture thickens towards the end of the saponification process, the temperature is raised to 95°C. Attention must be paid to the presence of free alkali. K. L. Weber, *Seifen-Oele-Fette-Wachse*, June 8, 1955, pp. 345-7.

### New Perfume List

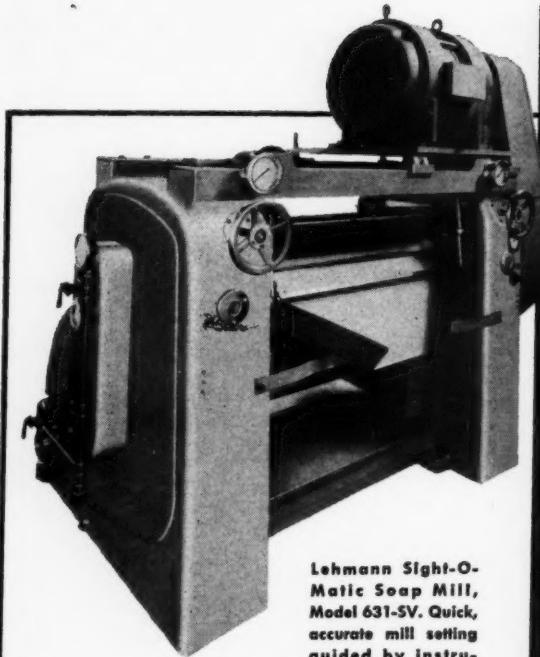
Polak's Frutal Works, Inc., Middletown, N. Y., recently published a new 22-page catalog of its essential oils, terpenes, synthetic aromatics, specialties and perfume bases.

### Linoleates Research Report

A summarized report on research work with linoleate esters was published recently by Van Dyk & Co., Belleville, N. J., makers of isopropyl linoleate. Linoleates are shown to be essential for epidermal metabolism and to be directly absorbed through the skin with rapid penetration into the capillary network.

### D & O Specialties Folder

Publication of a new four-page folder entitled "The Perfume Specialty" was announced recently by Dodge & Olcott, Inc., New York. With a foreword describing the origin, development and application of specialties in general, the folder also includes a brief description of eight of the company's newest items in this category. Copies are available on request from the company at 180 Varick St., New York 14, N. Y.



**Lehmann Sight-O-Matic Soap Mill, Model 631-SV.** Quick, accurate mill setting guided by instruments. Rolls adjusted

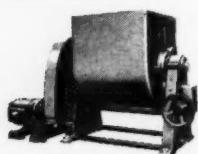
by handwheels and gauges to obtain optimum pressure levels for feed and take-off rolls quickly. Accurate pneumatic setting of take-off knife accomplished by handle and gauge. Cooling water regulated by dial thermometer, resulting in production savings. This instrumentation facilitates quality control and reduces costs.



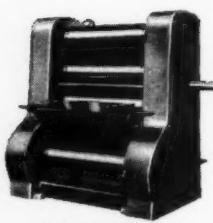
**Lehmann 310-P  
Preliminary Pledger.**



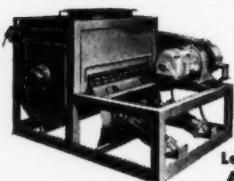
**Lehmann 310-F  
Finishing Pledger.**



**Lehmann 260-400 lb.  
Tilting Type Amalgamators.**



**Lehmann 912-SA  
Five Roll Finishing Mill**



**Lehmann Bottom Dump  
Amalgamator 40 G-B.**

# LEHMANN SOAP FINISHING MACHINES *for profitable production*

Lehmann Soap Finishing Machines offer manufacturers opportunities for substantial reduction in production costs — essential in these days of increasing competition. One unit particularly, the new Sight-O-Matic Soap Mill, gives the manufacturers of toilet soap and soap flakes a piece of equipment that can have marked effect in lowering costs, by minimizing the human element in mill operation.

Under today's high wage standards, man power is an expensive commodity. Make the most of it by supplementing it with the most efficient labor-saving machinery. Make use of Lehmann test facilities and engineering service on any of your processing machinery problems.

If you are not ready for new equipment, examine the advisability of a thorough factory reconditioning of manufacturing units that are still capable of efficient production. Ask us about Lehmann Certified Factory Reconditioning.

Lehmann is familiar with the problems involved in processing detergent soaps as they relate to the machinery to be employed. Whether your problem be detergent soaps or your regular soap products, consult Lehmann.



## J. M. LEHMANN COMPANY, Inc.

MAIN OFFICE AND FACTORY: 548 NEW YORK AVE., LYNDHURST, N. J.

## Simple Laboratory Foam Generator

By Philip F. Kurz

Battelle Memorial Institute  
Columbus 1, Ohio

A laboratory apparatus which has been found useful in simulating the action of "Freon"-type propellents for generating foams is described in this paper. The apparatus was developed for evaluating the relative effectiveness of a number of foaming agents in dilute aqueous solutions containing 0.05 to 5.0 percent of foamer.

Figure 1 shows a schematic diagram of the foam generator and its auxiliary equipment for charging, controlling air flow, flushing, and draining the generator.

A volume of 50 to 200 ml of the solution of foaming agent in water may be charged through the filling funnel into the tee. It is de-

sirable to have the charging vent open during this operation.

The foam is generated by admitting air slowly into the bottom of the tee. Initial admission of air to the generator must be at a controlled low rate. This procedure will cause the generating column to fill with thick, essentially "dry" foam and thereby prevent the discharge of a slug of liquid or a stream of thin very "wet" foam which would occur if the air-control valve were opened wide at the start. When foam emerges from the outlet of the

delivery tube the control valve may be opened wide for the remainder of the generating period. Between 90 and 95 per cent of the material charged is delivered as foam.

The water line permits rapid flushing of the tee and the generator-delivery column. Flushing is desirable when different materials or concentrations are changed after each test.

Figure 2 shows the amount of foam generated in the apparatus from 100 ml charges of various concentrations ranging from 0.5 to 2.0 percent by weight of an active foaming agent. Different materials tested for another purpose gave good foams in the air-blown generator at concentrations as low as 0.05 per cent by weight.

Delivery tubes of smaller diameter were tried but did not work as well as a one-inch pipe.

Steel wool or light copper

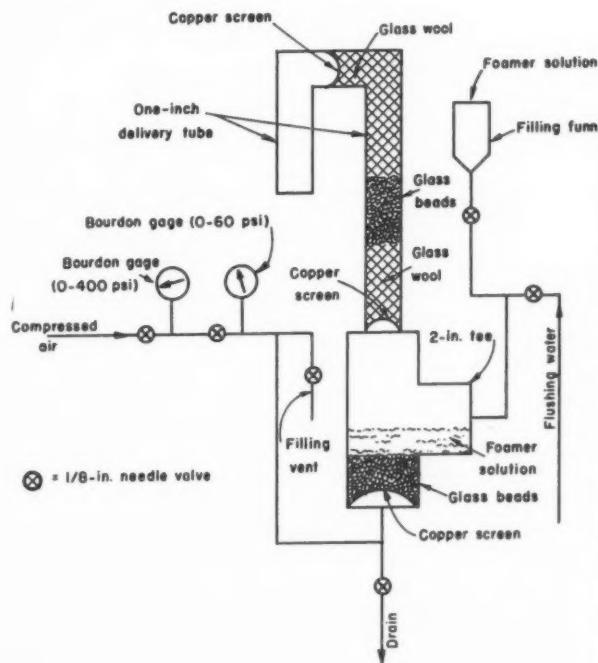


FIGURE 1. SCHEMATIC DIAGRAM OF AIR-BLOWN FOAM GENERATOR AND AUXILIARIES

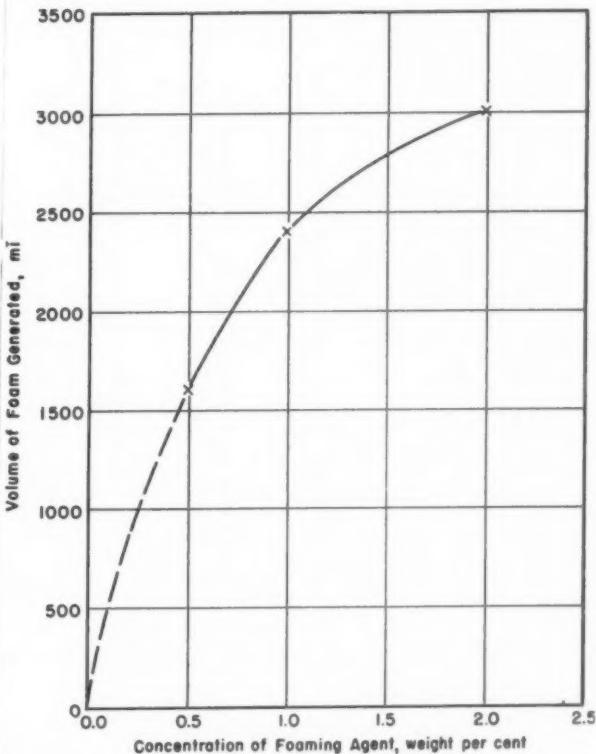
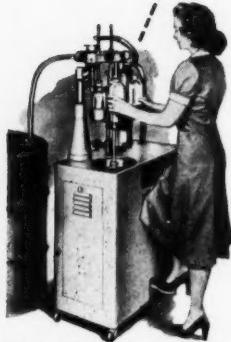


FIGURE 2. VOLUME OF AIR-BLOWN FOAM GENERATED FROM VARIOUS CONCENTRATIONS OF AN ACTIVE FOAMER IN WATER

LOOK TO  FOR EVERY  
**LIQUID FILLING  
REQUIREMENT**



**Model B-2 Vacuum Filler**  
 provides efficient continuous production, filling two containers at a time. Handles a wide variety of liquids and semi-liquids. Has automatic product supply; vacuum is adjustable and flow regulated for accurate, clean filling. Fills a wide range of containers up to 4½" dia. round or rectangular. Send for Bulletin B-2.



**Model B-49 Straightline Vacuum Filler**  
 for liquids and semi-liquids. Most automatic one-operator multiple filler. Operates with or without discharge conveyor. Filling proceeds automatically while empties are loaded. Easy operating lever activates container feed and discharge; otherwise operation is completely automatic. Adjustable for container sizes from AGST to gallon size finishes. A dependable machine where filling cost is a factor. For full details, send for Bulletin B-49.

and profit by more than two generations of liquid filling experience. The U.S. line covers a wide range of liquid filling machines for automatic, semi-automatic and hand-filling operations. With this wide choice of Fillers, you need not compromise your production to fit a machine; instead, basic U.S. machines are custom-engineered to fit your specific production . . . and usually at a saving.



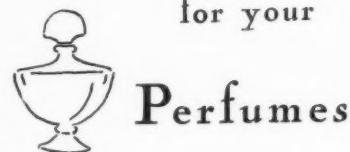
**The U.S. Siphon Filler**  
 is a highly efficient machine. Stainless steel filling tubes and glass lined tank. Handles all types liquids; all containers. Fills without overflow or spillage. Send for Siphon Bulletin.

**U. S. BOTTLERS  
MACHINERY COMPANY**

Specialists in Liquid Filling and Container Cleaning Equipment  
 4019 North Rockwell Street • Chicago 18, Illinois

BOSTON • NEW YORK • PHILADELPHIA • HOUSTON • DALLAS  
 LOS ANGELES • SAN FRANCISCO • DENVER • SEATTLE • PORTLAND  
 PHOENIX • NEW ORLEANS • TAMPA • ATLANTA • MONTREAL  
 TORONTO • VANCOUVER • WINNIPEG • EXPORT OFFICE: TOLEDO

# New Enchantment



for your

**Perfumes**



**Cosmetics**



**Soaps . . .**

Let us help you with the  
**UNUSUAL**  
 in **NATURAL and AROMATIC**  
**MATERIALS**

We are exclusive representatives for  
**TOMBAREL FRERES, Grasse**  
*Established 1857*

- **Absolute Supreme Flower Essences •**
- Surfine Essential Oils • Resinoids**

*Tombarel Research and  
 Tombarel's modern facilities can  
 help give your product that new  
 note that stimulates new business*

**Tombarel**  
**PRODUCTS CORPORATION**

725 BROADWAY • NEW YORK 3  
 IN CHICAGO: A. C. DRURY & CO. INC.  
 219 EAST NORTH WATER STREET

SOAP and CHEMICAL SPECIALTIES

turnings also worked effectively as column packing. However, these materials may undergo corrosion and thereby introduce undesirable foreign matter into the foam.

The two-inch tee might be replaced by another of different size to suit experimental requirements without materially changing the effectiveness of the generator. Copper tubing or 1/8-inch pipe can be used for the connecting lines.

### Floating Soaps

(From Page 48)

methods to 8.25 percent."

Soaps of reduced water content obviously call for different handling at the aeration stage; hence the reference by Thomssen and McCutcheon to the utility in this respect of Girdler Corporation's "Votator." Another way of aeration used to a considerable extent at the present time is to force the soap through a 'Votator,' which uniformly aerates and chills the soap at the same time. By putting a shaping device on the exit end, a uniform aerated bar may be extruded. Chilling is only slight, so that passage through the machine is without difficulty and the warm extruded bar has the consistency of marshmallow. On cooling to room temperature on racks, it sets up rigid and may be handled and stamped in normal fashion."

A British patent refers to the incorporation into soap of air or other non-reactive gas at 65-110°C, and at a pressure of up to 100 pounds per square inch, the soap being plastic or semi-fluid under these conditions although its water content has been previously reduced.

Claimed by a well-known American company is a floating soap that crystallizes in the beta phase and therefore possesses important properties as regards hardness, solubility and lather formation.

Another U. S. patent relates to a process that includes subjecting the aerated soap to agitation while preventing further substantial incorporation of air, thus comminut-

ing the air to an extremely fine and uniform state of subdivision, the agitation being completed at a temperature not more than 10°C above the solidification point of the soap. This process is followed by cooling and solidifying.

Some of the patents referred to above are cited in the references at the end of this article.<sup>(14)</sup> In my view any newcomer firm thinking seriously of producing a floating soap by a modern method involving flash drying followed by aeration under pressure, or some similar sequence of processes, would be well advised to instigate a preliminary discussion on the subject with an experienced patent attorney. On the other hand, of course, there is little risk of infringement involved in following known and traditional procedures.

### References

1. *Soap & Chemical Specialties Blue Book* for 1954: U. S. Govt. Speci-

### Detergents for Petroleum

(From Page 44)

termined by the centrifugal test but not by the imbibition process. Surface tensions rather than interfacial tensions are listed because these are commonly available in detergent literature. Furthermore, interfacial tensions are functions of the specific sample of crude oil and the detergent and can be measured precisely only with more complicated apparatus such as the pendent-drop instrument<sup>(20)</sup>.

The sodium salts of ethylenediamine tetra acetic acid (EDTA), silicates, and phosphates, form a group which generally has low surface activity but maintains rather high displacement efficiency. The detergency of basic substances on silica substrates has been a subject of considerable speculation<sup>(19)</sup>. One postulate is that sodium hydroxide formed by hydrolysis of the sodium salts reacts with the sand surface to form sodium silicate. This would reduce the interfacial tension at the water-sand interface virtually to zero. However, this postulate cannot explain the detergency of

- these substances in systems involving metal substrates.
2. Bergeron, J. *Parfums, Cosmetiques, Savons*, March, 1953.
  3. Martin, G. "The Modern Soap & Detergent Industry," London, 1951.
  4. U. S. patent 702,531 (Bowen), 1902.
  5. Blumenthal, F. "Cold Process Floating Soaps," *Soap & Chem. Spec.*, July, 1935.
  6. Hilditch, T. P. "Industrial Fats and Waxes," 3rd edition; Balliere, Tindall & Cox, London, p. 417.
  7. Thomssen, E. G. & McCutcheon, J. W. "Soaps and Detergents," Mac-Nair-Dorland Co., New York, 1949.
  8. Fisher, W. J. W. ("Angler"), *Soap, Perfumery & Cosmetics*, November, 1928.
  9. British patent 540,063.
  10. Lambourn, L. L. "Modern Soaps," New York, 1951.
  11. Levitt, B. "Oil, Fat & Soap," New York, 1951.
  12. Wigner, J. H. "Soap Manufacture: The Chemical Processes," London, 1940.
  13. Bodman, J. W. A. O. C. S. lecture on "Soap Finishing" given at Rutgers University, 1952.
  14. U. S. patents 2,210,924; 2,215,539; 2,398,776; 2,403,925.
  15. Wigner, J. H. "The Presence of Air in Soap," *Soap, Perfumery & Cosmetics*, September 1939.

Bartell<sup>(19)</sup> observed that solutions of certain alkaline salts reduced interfacial tension at the water-crude oil interface but not at the water-benzene interface. He postulated reactions of the alkaline salts with the petroleum constituents. The interfacial tension between water and benzene solutions of porphyrin esters was decreased by making the aqueous phase basic<sup>(20)</sup>. This decrease in interfacial tension, together with the occurrence of porphyrins and related nitrogenous compounds in petroleum, apparently corroborates Bartell's observations. Because basic salts, such as the polyphosphates, decrease interfacial tensions at the water-sand and water-oil interfaces, their action may be expected to resemble that of organic surface-active agents. However, the action of inorganic detergents appears to be largely chemical, rather than physical as in typical detergent adsorption. If this type of chemical reaction actually occurs, it would result in an irreversible adsorption of the additive.

Several of the nonionic deter-

the  
open  
door  
to ...

CHEMICALS  
for the Soap  
and  
Allied  
Industries  
**TURNER**

- Caustic soda
- Caustic potash
- Potassium Carbonate
- Potassium Persulphate
- Ammonium Persulphate
- Muriatic acid
- Nitric acid
- Soda Ash
- Sodium Bicarbonate
- Sodium Metasilicate
- Silicate of soda

- Silicate of potash
- Trisodium phosphate
- Metallic stearates
- Borax
- Boric acid
- Coconut oil
- Coconut fatty acids
- Red oil
- Sulfuric acid
- Stearic acid
- Tallow

Liquid Caustic Soda, Caustic Potash, Potassium Carbonate and Acids

Tank trucks, carboys and drums a specialty

**Joseph Turner & Co**

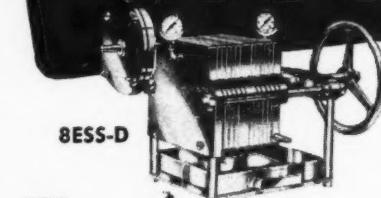
RIDGEFIELD, NEW JERSEY

83 EXCHANGE PLACE  
PROVIDENCE, R. I.

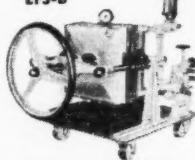
125 N. MICHIGAN AVE.  
CHICAGO 11, ILL.

NOW AVAILABLE ...  
**COMPLETE RANGE OF  
STAINLESS STEEL PLATE & FRAME  
SHEET FILTERS**

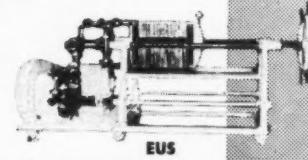
4" - 8" - 12" - 16"



BESS-D



EFS-B



EUS

ERTEL  
ASBESTOS  
FILTER SHEETS  
AVAILABLE FOR  
ALL FILTERS  
UP TO 25"  
SQUARE

Ideal for products ranging from ultra fine pyrogen solutions to coarse prefiltered bulk chemicals.

Send for Catalog illustrating the complete line of corrosion resistant filtration equipment.

**ERTEL ENGINEERING  
CORPORATION**

KINGSTON 6, NEW YORK  
Branch Office & Showroom Located in New York City

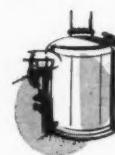
OUR REPRESENTATIVES  
THOMAS R. REGISTER  
COMPLETE LINE OF  
Liquid Handling Equipment



## CUSTOM-BUILT PLANTS

All Over The World  
FOR

Glycerine — Fatty Acids — Edible Oils



### WURSTER & SANGER OFFERS ...

- Consulting service to aid in solving your operating, process or equipment problems.
- Design of a complete new plant or
- Equipment and specifications to modernize your present plant.

FILTREX Solvent Extraction—world's most versatile direct solvent extraction process for oils.

Continuous Fatty Acid Distillation—unsurpassed product quality—yields exceeding 99%.

Fat Splitting—high pressure non-catalytic and low pressure autoclave processes.

Hydrogenation—foremost designers of equipment for hardening fats, oils, fatty acids.

Oil Refining—for production of highest quality cooking and salad oils.

Glycerine Recovery and Refining—W&S equipment is the choice of large and small producers for efficiency of recovery.

Margarine, Shortening, Vanaspati—and other process plants are offered.

WRITE FOR FURTHER DETAILS AND BULLETINS.

**WURSTER & SANGER, INC.**

(Dept. 1) 5201 South Kenwood Avenue, Chicago, Illinois, U.S.A.

gents tested contained only a small proportion of the nonionic compound mixed with inorganic salts or "builders." Various combinations of polyphosphates, silicates, sulfates, carbonates, and borates commonly are used as builders in commercial formulations. Light-duty detergent formulations, designed for light household use, generally contain neutral salts such as sodium sulfate (17). The heavy-duty formulations have a high content of alkaline salts. The nonionic formulations listed in Table 2 were prepared specifically for petroleum displacement. Accordingly, they were of the heavy-duty type and contained the polyphosphates as principal builders.

Seven of the nine most efficient detergents listed in Table 2 were built nonionic formulations containing five to 20 percent nonionic compounds. Their pH values ranged from 8.2 to 10.5.

Reference to Table 3 shows that the builders (polyphosphates) used in these formulations are rather effective for displacing petroleum. However, the effect of the builders would represent only a small part of the total effect of the formulation. It appears, therefore, that a synergistic or cooperative effect is responsible for the high displacement efficiencies of these built formulations.

Other work has shown that the displacement efficiency of the built formulations containing 15 percent "Triton X-100" remains nearly equal to that of the pure nonionic at total concentrations as low as 0.01 wt. percent. This amounts to only 0.0015 wt. percent (15 p.p.m.) of "Triton X-100." Therefore, by use in basic builders, the displacement efficiency of the typical nonionic detergents can be maintained at a high level with very low concentrations of detergents.

The value of basic builders in soap and anionic detergent formulations has been known for many years. Their effect with ionic substances can be explained in part by their high hydroxide concentration which suppresses the hydrolysis of

**Table 3.—Displacement Efficiencies and pH Values\* of 0.1 wt. Percent Inorganic Solutions.**

Solution	pH	Displacement efficiency
Water	6.6	1.00
NaCl	6.6	1.05
HCl	1.5	1.07
Na <sub>5</sub> P <sub>3</sub> O <sub>10</sub>	8.0	1.10
Na <sub>2</sub> SO <sub>4</sub>	6.6	1.12
NaOH	11.0	1.15
Silicate of Soda N	8.3	1.20
Silicate of Soda D	10.5	1.22
Silicate of Soda RU	10.9	1.24
Hydrated silicate of Soda	12.0	1.26

\*Water and solutions saturated with air at atmospheric pressure.

the surface-active agent. The function of builders in nonionic formulations is less apparent. However, their beneficial effects on nonionic detergents have been observed in the more common applications (17). The phosphates and related substances have several properties that might be expected to aid in detergency. Among these are the well-known water-softening and sequestering actions. They also are efficient as suspending or peptizing agents. Bureau of Mines laboratory studies indicate that the addition of an electrolyte decreases the critical micelle concentration of nonionic polyoxyethylated detergents.

(To be concluded)

### Bibliography

- Calhoun, J. C., Stahl, C. D., Preston, F. W., Nielsen, R. F., A Review of Laboratory Experiments on Wetting Agents for Water Flooding *Prod. Month.*, Vol. 16, No. 1, November 1951, pp. 15-23.
- Breton, J. S., and Johnson, W. E., Experiments with Wetting Agents in the Bradford Field, *Prod. Month.*, Vol. 16, No. 1, November 1951, pp. 24-30.
- Dunning, H. N., Hsiao, Lun, and Johansen, R. T., Displacement of Petroleum from Sand by Detergent Solutions, Bureau of Mines Report of Investigations 5020, December 1953; *Oil and Gas Jour.*, August 16, 1954, pp. 139-149; *The Petroleum Engineer*, January 1954, pp. B-82-90.
- Dunning, H. N., Hsiao, Lun, and Johansen, R. T., Variables in the Centrifugal Testing of Petroleum Displacement by Detergent Solutions, presented at the 127th National Am. Chem. Soc. Meetings at Cincinnati April 1955.
- Slobod, R. L., Chambers, Adele, and Prenn, W. L., Use of Centrifuge for Determining Connate Water, Residual Oil, and Capillary Pressure Curves of Small Core Samples, *Jour. Petro. Technol.*, Vol. 3, No. 4, April 1951, pp. 127-134.
- Dunning, H. N., and Johansen, R. T., A Combination Thermostat and Elevating Platform for the Surface-Tension Balance, *Rev. Sci. Instr.*, Vol. 24, December 1953.
- Fineman, M. N., Brown, G. L., and Myers, R. J., Foaming of Nonionic Surface Active Agents, *Jour. Phys. Chem.*, Vol. 56, No. 8, November 1952, pp. 963-966.
- Cross, J. M., New Developments in Surface Active Nonionics, Chem. Specialties Manufacturers Assoc., Chicago, Ill., 1950.
- Terwiller, P. L., and Yuster, S. T., Chemical Agents in Water-Flooding *Prod. Month.*, Vol. 9, No. 1, 1946, pp. 42-45.
- Guereca, R. A., and Butler, H. S., Screening Surface Active Agents for Oil Displacing Ability, *Prod. Month.*, Vol. 19, No. 3, Jan. 1955, pp. 21-29.
- Dunning, H. N., Gustafson, H. J., and Johansen, R. T., Displacement of Petroleum from Sand Surfaces by Solutions of Polyoxyethylated Detergents, *Ind. Eng. Chem.*, Vol. 46, March 1954, pp. 591-596.
- Dunning, H. N., and Hsiao, Lun, Laboratory Experiments with Detergents as Water-Flooding Additives, *Prod. Month.*, Vol. 18, (1953) pp. 24-29.
- Moore, T. F., and Blum, H. A., Wettability in Surface-active Agent Water Flooding, *Oil and Gas Jour.*, Vol. 51, No. 31, 1952, pp. 108-111, December 8.
- Caro, R. A., Calhoun, J. C., and Nielsen, R. F., Experiments Using Surface Active Agents to Increase Oil Recovery, Pennsylvania State College, Mineral Industries Experiment Station, Bulletin No. 60, 1952, pp. 57-59, October.
- Schwartz, A. M., and Perry, J. W., *Surface Active Agents*, Interscience Publishers, New York, New York, 1949, p. 372.
- Preston, F. W., and Calhoun, J. C., Applications of Chromatography to Petroleum Production Research, *Prod. Month.*, Vol. 16, No. 5, 1952, pp. 22-31.
- McCutcheon, J. W., Synthetic Detergents, MacNair-Dorland Co., New York, New York, 1950, pp. 153, 244.
- Burcik, Emil J., The Inhibition of Gypsum Precipitation by Sodium Polyphosphates, *Prod. Month.*, Vol. 19, No. 1, November 1954, pp. 42-44.
- Bartell, F. E., and Miller, F. L., Displacement of Crude Oil and Benzene from Silica by Aqueous Solutions, *Ind. Eng. Chem.*, Vol. 24, No. 3, (1932), 335-8.
- Dunning, H. N., The Interfacial Activity of Mesoporphyrin IX and Some Derivatives, *Jour. Colloid Sci.*, Vol. 8, (1953) pp. 279-285.



**MAKE ANY OPEN TANK** an efficient mixing vessel, by adding a LIGHTNIN Portable Mixer. Powerful double mixing action tumbles and rotates the batch for thorough, rapid blending, stirring, dissolving, suspension of solids. Thirty models, gear and direct drive,  $\frac{1}{2}$  to 3 HP. Send for Catalog B-108.

### *How to mix more profit into every batch*

Do your fluid mixing operations *cause* problems—or solve them?

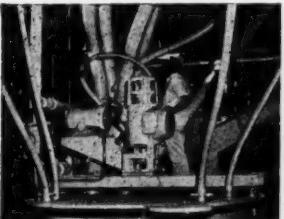
The way you mix fluids can—often *does*—directly affect the profitability of your business. One poorly mixed batch can take the profit out of a full day's operation.

That's why you can't afford *not* to get the best possible mixing for every tank where you mix fluids, dissolve or suspend solids, wash, circulate, transfer heat, control crystal size, contact liquids with liquids or gases.

It's easy to have "profit-pattern" mixing that fits your operations and gives you the exact results you want. You don't have to have a big engineering staff to get it.

Your LIGHTNIN Mixer representative can give you, quickly, a complete fluid mixing recommendation, firm mixer price, and delivery date. And he'll *guarantee* unconditionally to satisfy you.

In a hurry to get going? You can get all the facts from him by *telephone* without waiting. Why not look him up in your copy of Thomas' Register, and call him today?



**MIX BIG BATCHES**, in open or closed tanks, with LIGHTNIN turbine-type units that give you the one correct flow pattern for your process. Hundreds of standard power-speed combinations, in sizes from 1 to 500 HP. Send for Catalog B-102.



**CUT MIXING COST** in very large tanks (up to 6 million gallons) with side entering LIGHTNIN Mixers. Very high flow rate; lowest possible upkeep with new rotary mechanical seal that eliminates stuffing-box repacking. Send for Catalog B-104.

### *"Lightnin" Mixers*

**MIXING EQUIPMENT Co., Inc.**

167-1 Mt. Read Blvd., Rochester 11, N.Y.

In Canada: Grey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 10, Ont.

# Spray Tower Bargain

This unit is a direct gas fired, concurrent, stainless steel spray tower 10½ feet in diameter and 36 feet high. Complete unit includes pump, piping, settling boxes and cyclones. Bolted sections are easily dismounted. Unit is located at Cleveland, Ohio.

**We must dispose of this  
tower immediately.**

**Price is open to negotiation!**

For full information write or wire

**Hunt Mfg. Co.**

Cleveland 4, Ohio

CEdar 1-2113



### **POTDEVIN** Semi-Automatic Feed Label Paster

Instant adjustment for labels up to 7½" wide. Operator's hands always free. Speeds-up production with minimum effort. Write for literature.



**POTDEVIN**

256 North Street

**MACHINE CO.**

Teterboro, N.J.

Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling

**By E. G. Thomssen, Ph.D.**

**W**HEN the word "maintenance" is mentioned to a production man, he thinks invariably of upkeep of plant, grounds, machinery and processing equipment. Unfortunately, the physical and mental health and well-being of a company's most costly investment, its labor force, is not included in the category of items requiring maintenance. And, yet, the investment in labor is receiving more and more attention by individual companies in these days of steadily rising wage scales. Large and small companies alike are protecting their investment in labor by not only hiring people in good health, but also by taking steps to see that their health is maintained.

A prime requisite to any successful company health program is the hiring of healthy employees. Too often this basic idea is overlooked, or at least not sufficiently emphasized. While it is true that most employment application blanks request information regarding the applicant's health, generally the investigation goes no further. No one seeking a position is going to jeopardize his chances of obtaining it by admitting that his health is not good, unless it be readily discernible or he has some obvious physical disability.

The only certain way to determine the condition of an applicant's health is by a thorough physical examination by a doctor prior to employment. Not only is this valuable in eliminating those whose health will not permit them to perform certain types of work, but it aids greatly in determining the duties for which a person is physically suited. Such an examination does not necessarily eliminate physically disabled persons. In fact, it may help in placing those with physical handicaps in positions which they may fill as well or better than

those without serious physical deficiencies.

In some plants the pre-employment physical examinations are augmented later by periodic physical check-ups. It has been found in industrial medicine, as well as in general practice, that early detection and treatment of illness is the best, easiest and usually the least costly way of maintaining employees' health and morale. The emphasis on these health programs, of course, is on preventive rather than curative medicine.

The considerations of employee health mentioned thus far pertain mostly to prospective and new employees. The benefits to be derived from even such a nominal health program as routine physical examinations before and during employment far outweigh the cost. A more comprehensive health program naturally would go much further and would involve more in the way of cost. It might even include free, or low-cost nutritious and appetizing meals for employees. Again, there is a growing feeling that the cost is more than made up for in improved health, morale and, consequently, output of the employees. The question of how elaborate the

Dr. Thomssen



program should be is one for management to decide.

Today, labor unions are seeking more and more in the way of fringe benefits. Health and welfare funds are insisted upon more frequently. As a health insurance program, or whatever other name may be given to it, is a direct labor item, its cost must be allocated to that of the product being made. Such a cost is not easy to ascertain.

To evaluate the expense of a general health maintenance plan, the benefits and well-being of the employees, as against the cost of medical care enter the problem. Human beings are not machines which can be depreciated annually by a certain percentage. In most cases a man's worth increases in direct ratio to his length of service with a company. This being so, obviously, there are advantages in providing the necessary assistance to see that he remains well physically and mentally.

The benefits that accrue to the firm whose working force is mentally and physically healthy include: 1.) less absenteeism; 2.) reduced turn-over in labor and retention of desirable employees for longer periods; 3.) increased efficiency of workers and fewer errors on their part as a result of poor physical or mental health; 4.) greater incentive to work; 5.) greater caution on the part of accident prone workers and thus a reduction in compensation costs; 6.) greater productivity on the part of employees; 7.) less friction among employees and fewer criticisms of management by disgruntled members of the work crew; 8.) the home life of the workers is happier and their living conditions generally are better.

All these benefits are sought after by plant management. They can contribute to the peace of mind of production supervisors and increase the value of employees to their companies.

Because it is not possible to outline a health maintenance plan to cover every situation, we leave it to the individual firm to work out the details of such a program. In

## how to keep liquid soaps sparkling clear



# ...Versene®

### SHELF LIFE CLARITY

Producing a liquid soap with sparkling clarity is one thing. Keeping it that way on the shelf is another. Research shows that almost invariably, the cloudiness that spoils both appearance and profits in liquid soaps, shampoos, and similar products stems from the metallic ion contamination.

### VERSENE GUARDS AGAINST CLOUDINESS

When you add the correct amount of the right Versene (organic chelating agent) compound to the saponification mixture, complete protection against cloudiness is achieved for the life of your soap product. Versene adds many other important advantages, too: lighter color, prevention of rancidity and color change, inhibition of deposition of silica when soap is stored in glass; "built-in" hard water resistance and often, elimination of the chilling process.

### VERSENE ADVANTAGES FOR YOU

Versene's complete stability in both hot and cold solutions, throughout the pH range, and guaranteed uniformity of chelating power make it invaluable in the manufacture of soap and soap products. When metallic ions interfere with the quality, appearance or efficiency of your product, specify a Versene. Twenty-five years of experience in chelate chemistry, are at your command. For further information, write to Dow.



THE DOW CHEMICAL COMPANY  
MIDLAND • MICHIGAN



devising a health maintenance program variables such as size of plant, number of workers, products manufactured and funds available must be taken into consideration. It is up to individual firms to decide whether a simple or more elaborate health program is necessary, what the cost of the plan would be, and where the right medical personnel could be found to operate the plan constructively. First, however, those interested in inaugurating such a plan should consult the literature which reviews the experience of companies which have and are successfully operating an employee health program. There are two very good booklets on the subject. "Health Maintenance" is one in a series published by Small Business Management, Washington, D. C. The other, "Employee Health Services," is part of the industrial health series published by the Metropolitan Life Insurance Co., One Madison Ave., New York 10, N. Y.

In addition, other organizations from which helpful information can be obtained include local, state and national health and welfare services, American Association of Industrial Nurses, labor groups, medical societies, and health insurance companies.

The time may not be far off when health maintenance becomes as important to production men as general plant and machinery maintenance.

### Lab Temperature Cabinets

A SERIES of moderately priced, automatic, temperature control cabinets, including ovens, incubators, conditioning and drying cabinets, sold under the trade name "Robotemp," were announced recently by A. Daigger & Co., Chicago 10, Ill. Model 500, which provides slightly more than one cubic foot of work space, has interior dimensions of 13 x 13 x 13 inches. Electrically heated, it can maintain a temperature control accuracy of plus or minus two degrees F., adjustable to a maximum 350°F. The cabinet and its door are double walled. A two-inch thick blanket of glass wool

insulates the door and surrounds the working chamber to conserve heat and eliminate radiation.

A sensitive, adjustable thermostat, with a sealed hydraulic element, governs the heating bank directly with no dependence on relays. The thermostat bears the seal of approval of Underwriters Laboratories. Temperature setting is accurately reproducible. Heating bank, outside of the work chamber, operates at black heat for safety and extreme durability, and is of low wattage density. The heat-retaining door gasket contains silicone. Heat transfer to the inner walls is by direct conduction, thence to the load by radiation. An adjustable shutter permits control of air flow and exhaust of vapors or gases which might be generated in the chamber. Included are two perforated steel shelves, adjustable for height in one inch steps; thermometer holder, mercury thermometer and pilot light.

#### New Meter

A NEW meter, manufactured by Neptune Meter Co., New York 20, N. Y., was announced recently which features a double-trip or "cushioned" auto-stop valve that slows down the rapid flow of liquids an instant before it trips shut. This permits extremely accurate cut-off with no hydraulic hammer. The meter operates with oils, water, syrups and other liquids used in batching or blending processes.

To operate, the tripping mechanism on the register is first set by pushing the buttons on the bottom of the register until the number of gallons or pounds required by the formula shows up on the setting wheels in the small window just above the buttons. The main numerals are then cleared back to zero by turning the re-set handle on the right side of the register. After opening the auto-stop valve, the operator is free to devote full attention to other duties. The meter automatically cuts off the flow when the exact quantity of liquid is delivered.

The large numerals on the face of the meter keep pace with the flow and provide a visual check when the delivery is finished. The flow can be halted instantly at any time by pressing the emergency stop button. This does not affect the meter reading or the auto-stop setting. The delivery can be resumed to its conclusion by reopening the valve or the register can be reset for a new quantity before continuing.

The meter is of the positive displacement, nutating piston type, for handling more than 140 different industrial liquids. Bronze construction is used.

#### Air Cleaners

ELECTRO-AIR Cleaner Co., Pittsburgh 33, Pa., recently announced a new bulletin on its line of air cleaners. Using these units, oil or coal smoke, pollens, spores, dust dirt and other air-borne contaminants can be removed from the atmosphere.

Built in several types and sizes for industrial use, these air cleaners operate by passing air through an ionizing screen where all particles as small as 1/1000th of a micron receive a positive charge. The electrically charged particles then pass by parallel collecting plates to which they adhere. To remove these collected particles wash-water manifolds periodically flush down the plates.

#### Heavy Duty Pump

A FREE information bulletin that is recommended as an aid in solving problems pertaining to pumping is now available from Robbins & Myers, Inc., Springfield, O. The booklet also deals with the Robbins & Myers "Moyno" pump that is claimed will handle any material that will pass through a pipe. The pump is used for such materials as caustics, acids, soaps, heavy greases, sludges, plastics, abrasive materials in water and cement.

The "Moyno" pump consists of a screw-like rotor which turns in a double threaded stator. As the

rotor turns it creates cavities which move the material being handled toward the discharge end. Even materials containing large particles pass through easily. The pump may be constructed from a large range of metals, rubber or plastics, and is available in capacities of 250 g.p.m. and pressures of up to 60 p.s.i.

#### Mathieson Lists Organics

A four-page folder describing the Mathieson line of organic chemicals was published recently by Olin Mathieson Chemical Corp., Baltimore. Properties and potential uses of each compound are included. Mathieson offers a full line of glycols for the industrial consumer in the surfactant, cosmetic, and numerous other fields. The glycol ether solvents are marketed under the trade name "Poly-Solv." Other chemicals listed include mono-, di-, and tri-ethanolamine, ethylene diamine and polyamines, trichlorophenol, ethylene dichloride, etc.

#### Geigy Sequestrant Bulletins

Two complexing agents are described in new bulletins available from Geigy Industrial Chemicals Division of Geigy Chemical Corp., New York. Information on "Chel DM-41" (trisodium hydroxyethyl ethylenediamine triacetate) and "Chel DM" acid (hydroxyethyl ethylenediamine triacetic acid) includes chemical and physical characteristics and use data. "Chel DM-41" is said to offer certain advantages over "Sequestrene" as an iron solubilizer in potash coconut soaps.

#### Phantolid Data Sheet

Polak's Frutal Works, Inc., Middletown, N.Y., issued recently a supplemented four-page brochure on "Phantolid." Said to combine low price and much of the fragrance and many of the performance properties of natural musk, the product is described as 1,1,2,3,3,5-hexamethyl indan methyl ketone. Usage suggestions, data on chemical and physical properties, and price information are included in data sheet.

FAMOUS LIGHTHOUSES OF AMERICA



*PIGEON POINT LIGHTHOUSE is located on the Coastal Highway  
5 miles south of Pescadero, California. Constructed in 1872, its 115-foot white  
masonry tower stands on a rocky headland that for many years  
has been a landmark for ships approaching the Golden Gate from the  
south. Pigeon Point and the lighthouse are named for the ship  
Carrier Pigeon, one of the many that came to grief on the outlying rocks  
in the years before the beacon was built.*

*Safe Guides* to quality in electrochemicals are Niagara Alkali Company's skill and experience in production and its modern facilities for quality control. Put your trust in Nialk® Liquid Chlorine, Nialk Caustic Potash, Nialk Carbonate of Potash, Nialk Paradichlorobenzene, Nialk Caustic Soda, Nialk TRICHLOROethylene, Niagathal® (Tetrachloro Phthalic Anhydride).

**NIAGARA  
ALKALI  
COMPANY**

60 East 42nd Street  
New York 17, N.Y.

# NEW Patents

The data listed below is only a brief review of recent patents pertinent to the readers and subscribers of this publication. Complete copies may be obtained by writing to the publisher of this magazine, Mac Nair-Dorland Co., 254 W. 31st Street, New York 1, N. Y., and remitting 50c for each copy desired. For orders received from outside of the United States the cost will be \$1.00 per copy.

**No. 2,715,069. Polishing Wax Composition**, patented by Ralf B. Trusler, Dayton, Ohio, assignor to The Davies-Young Soap Co., Dayton. The patent reveals a polishing composition which is adapted to form a filled polished surface upon application thereto, said polishing composition consisting essentially of wax dissolved and dispersed in petroleum solvent, said petroleum solvent having a solvency corresponding to Kauri Butanol #35, said wax being selected from the group consisting of carnauba wax, said carnauba wax having an acid value of from 3 to 8 and Chinese wax. The percentage of wax in solution in said petroleum solvent consists of from 12½% to 20% by weight of the total amount of wax present, the balance of the wax being retained in suspension in said petroleum solvent as a setting filler.

**No. 2,716,627. 1-Aryl Derivatives of 2-Nitroisopropyl-Phenylalkanes and Insecticidal Compositions Containing the Same**, patented by Arnold N. Johnson, Passaic, N. J., assignor to Commercial Solvents Co., Terre Haute, Ind. The patent describes compounds represented by the formula:



wherein R is selected from the group consisting of methyl and ethyl and Ar is selected from the group consisting of tolyl, xylyl, ethylphenyl and isopropylphenyl.

**No. 2,716,072. Methylcellulose Composition and Method**, patented by William J. Hanson, Long Beach, Calif., assignor to Dow Chemical Co., Midland, Mich. The patent covers a free-flowing pulverulent methylcellulose composition, adapted readily to wet with and dissolve in water over a temperature range of 0°-40° C. The product comprises 30-70 per cent by weight of methylcellulose of particle size of 60 screen mesh and smaller (Tyler screen series), 20-50 per cent by weight of sodium acetate, and

10-20 per cent by weight of a solid synthetic anionic wetting agent of the formula, wherein X represents one of



the structures lauryloxy, coconut oil-fatty acid amido-polyethylenoxy, and (long-chain alkyl)-phenyl, the several constituents being in intimate dispersion each with the others.

**No. 2,716,610. Automobile Polish Compositions**, patented by Dominick Russo and Henry H. Cooke, Elizabeth, N. J., assignors to Esso Research and Engineering Co. Described is an automobile polish having approximately the following weight per cent composition:

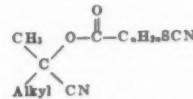
Oil soluble petroleum sulfonate (450-550 mol. wt.) of a metal selected from the group consisting of sodium and potassium	
Camphor oil	0.1
Spindle oil	3.0
Bentonite	8.4
Water-soluble emulsifying agent selected from the group consisting of medium chain alcohol sulfates, sulfonated ester derivatives, and sulfonated aromatic derivatives	2.0
Diatomaceous earth	12.50
Water	73.67
	100.00

**No. 2,715,642. Method of Removing Ketones from Fatty Acids**, patented by George Barsky, New York, N. Y., assignor to E. F. Drew & Co., Inc., New York, N. Y. The patent teaches a method of purifying fatty acids containing ketones as impurities which comprises providing a fatty acid substantially insoluble in water and containing ketones, adding an alkylamine thereto, agitating and heating the mixture, adding thereto a sufficient amount of water to form a 20-30% soap solution, then allowing the mixture to separate into two layers, removing the soap from said ketones.

**No. 2,714,562. Self-Sealing Wrapping Material**, patented by John F. Hechtmann, Munising, Mich., assignor to The Munising Paper Company, Chicago, Ill. The patent covers as a new article of manufacture, a sheet of self-sealing wrapping material adapted completely to encase an article and thereby seal the same, said article comprising a thin, flexible sheet of a non-porous material having on one surface thereof an exposed flexible film of a cohesive, substantially non-adhesive material comprising a mixture of natural rubber and a copolymer of from 50 to 80% by weight of a butadiene-1,3 hydrocarbon and from 20 to 50% by weight of an acrylic nitrile having a molecular weight below 100,000, in the propor-

tion of 10 to 60% of natural rubber and 90 to 40% of the copolymer, on a dry weight basis, and having on the other surface thereof an exposed flexible wax film.

**No. 2,716,626. Thiocyanato Fatty Acid Esters of Methyl Alkyl Ketone Cyanohydrins and Insecticides Containing Them**, patented by Henry Martin, Zurich, Switzerland, assignor to Cilag Limited, Schaffhausen, Switzerland, a Swiss company. Covered are new thiocyanato fatty acid esters of cyanohydrins of methyl alkyl ketones of the general formula where-



in alkyl is a lower alkyl radical and n is an integer from 1 to 5.

**No. 2,716,073. Heat-Treated Magnesium Soap Composition**, patented by Joseph Cunder, East Orange, and Francis J. Licata, West Caldwell, N. J., assignors to Nopco Chemical Co., Harrison, N. J. Described is a composition of matter which comprises a homogeneous mixture of a wax, and a heat-treated magnesium soap of a saturated fatty acid containing from 8 to 22 carbon atoms, the soap having been heated above its melting point for a period sufficient to substantially reduce its viscosity in the liquid state.

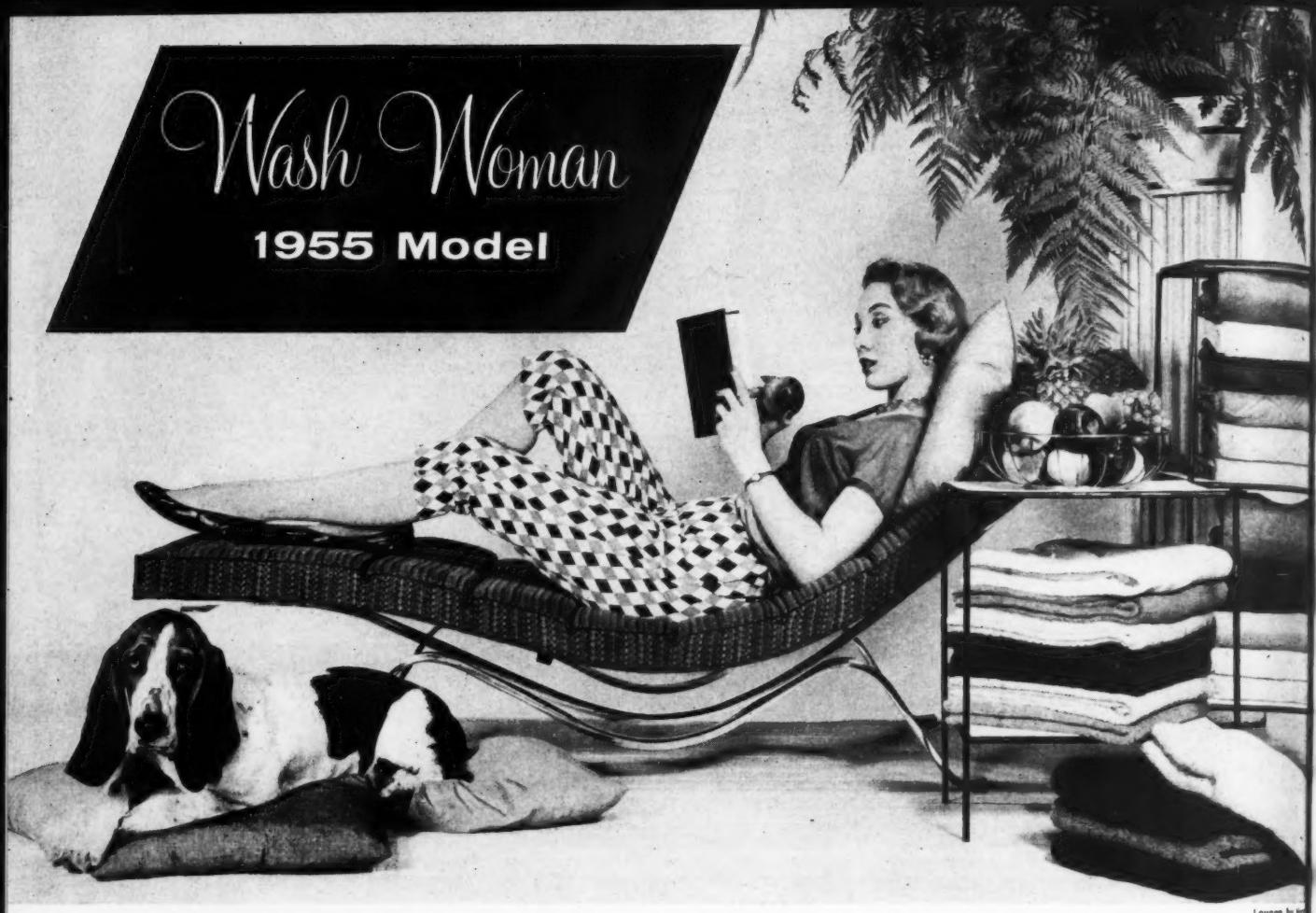
**No. 2,715,110. Method for the Production of a Granulated Soap Product**, patented by Freeman G. Packard, Lexington, Mass., assignor to Lever Brothers Co., New York, N. Y. This patent teaches a method for making a substantially dry, granular, alkali-metal silicate-containing soap product rapidly dispersible in hot as well as cold water and substantially free from gel-forming and agglomerating characteristics. The method comprises treating the substantially dry soap granules with carbon dioxide in a concentration and for a time sufficient to form silica on the surfaces of the granulated soap particles but insufficient to make the particles substantially water-insoluble.

## Acrylates Bulletin

Acrylic esters, including ethyl, n-butyl, 2-ethylbutyl, and 2-ethylhexyl acrylate, are described in an eight-page technical bulletin issued last month by Carbide and Carbon Chemicals Co., New York. Physical and chemical properties, methods of polymerization, applications of polymers and copolymers are covered and selected references are appended. Acrylic esters are used as intermediates for insecticides and numerous other compounds. Bulletin F-7434 is available from Carbide.

# Wash Woman

1955 Model



Lounge by Ne

. . . and how Victor helped make this possible

There's more leisure for ladies on wash day, thanks to the makers of modern work-saving detergents . . . and to the Victor Phosphates, specified by virtually all leading detergent manufacturers.

Beyond the purity and effectiveness of Victor products, there's still another reason for industry-wide preference for Victor as a source of supply. That reason is service—service that includes consultation on any detergent problem, large or small . . .

backed up by 57 years of sound experience in the development of phosphates.

Is there a detergent problem facing you? If so, use Victor laboratory facilities and counseling service—confidentially and without obligation—to help find a practical solution. And, for a valuable source of reference, be sure to send for the Victafile that tells how Victor Phosphates are used to improve detergency, solubility, water softening, and stability.

**VICTOR CHEMICAL WORKS**

155 N. Wacker Drive, Chicago 6, Illinois

Please send Victafile showing uses of Victor chemicals  
for the Soap and Detergent Industry.

Firm Name \_\_\_\_\_

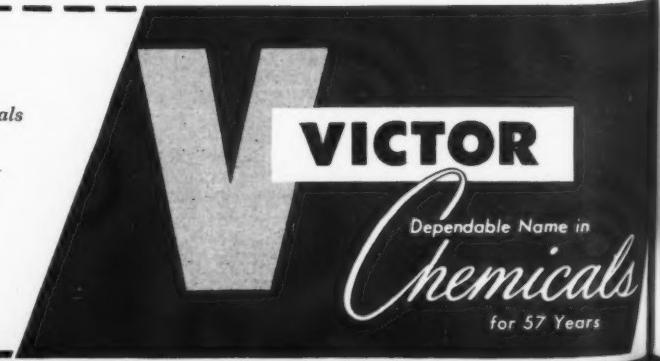
Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

Your Name \_\_\_\_\_

Industry \_\_\_\_\_

(Please attach to your letterhead)



# Products and PROCESSES

## Neutral Soap

A substantially non-alkaline soap, capable of neutralizing substantial amounts of acids and bases without change of its lathering properties and pH, is said to be more favorable to the skin than conventional type soaps. The hard and transparent end product comprises an alkali metal soap, a triethanolamine salt of a soap-forming fatty acid and containing at least 18 carbon atoms and an excess of triethanolamine combined with the salt in the form of an ether. The mixed soap has a pH of about 7.5 in 10 percent aqueous solution. British patent 729,568, L.E.G.H. Fromont, Brussels, Belgium.

— ★ —

## BHC as Impregnant

Impregnation of jute with the gamma isomer of benzene hexachloride is complicated by the fiber's strong affinity for BHC emulsions. Excessive and uneven impregnation may result. Pre-soaking in water does not provide an answer; pre-soaking in a one-percent solution of aluminum sulfate reduced affinity but proved too time-consuming for commercial purposes. The problem was then approached from a totally different angle, namely by trying to reduce the mobility of emulsion particles. Agar-agar added to a 0.1 percent level was successful. The slight reduction caused in the activity of the insecticide proved insignificant in practice. Additions of casein or gelatin were rejected because they affected emulsion stability. *Indian Journal of Scientific and Industrial Research*, 1955, 14 B, 6. Through *Chem. Age*, Aug. 13, 1955, p. 315.

— ★ —

## Cellulose in Syndets

The detergent power of anionic surface active agents, in particular long chain alkyl sodium sulfonates, is increased by an addition of between two and 10 percent (of the weight of the syndet) of a water-soluble alkyl cellulose. The

dissolving of such a thickening agent in the detergent solution was found to be more difficult than the dissolving of the same alkyl cellulose in water. Moreover, when the thickened detergent solution is added to a large volume of hot water, as in the ordinary use of detergent solutions, the alkyl cellulose frequently shows a tendency to coagulate and may form a curd. It is suggested to use as thickening agent a methyl cellulose of high viscosity, preferably above 750 to 1000 centipoises. Such high viscosity methylcellulose, added to the detergent solution in a concentration of 0.4 to two percent by weight, dissolves readily in the detergent solution which is to be thickened. British patent 730,572, British Celanese, Ltd., London.

— ★ —

## Testing Liquid Soap

"How to Test Liquid Soap" is the theme of a feature in the September issue of *Clean-Up*, published by C. B. Dolge Co., Westport, Conn. A practical test to determine performance of liquid soap under use conditions is described as follows "First examine soap by holding it in a glass container to the light. Make sure it is clear. If it is cloudy, it may not dispense properly—may 'sour.' Next, place soap in freezing compartment of refrigerator; then thaw out. It should return to its original clear state. If it does not meet this test it may not store well, and the last few gallons may be wasted. Smell the liquid soap in the bottle and rub a drop over the back of the hand and inhale. Users are urged to get opinions on the odor of the product from women in their organization.

Try the soap for lather—quantitatively and qualitatively: 1. half-fill a series of eight-ounce bottles with water; 2. into each bottle pour an equal amount (one and one half teaspoonsfuls) of every liquid

soap under consideration; 3. shake all bottles—see how high the lather rises in each. Knowing how freely each soap lathers, wash with it and feel it for firmness. The hands will indicate to the user which soap has body—which produces the rich, creamy, small bubble type lather and which does not. After having rinsed off the lather study the skin to determine how thoroughly the soap has cleaned. Dry the hands and check to see if there is any irritation. One wash may not reveal the fact that a soap is harsh. When a brand warrants further consideration, dispense it for several days and check with users.

Antiseptic activity cannot readily be checked, and the consumer must rely on the label, which is regulated by the government.

## Cream Shampoo

A new cream shampoo is based on a synthetic detergent which may be alkali, ammonium or triethanolamine salts of lauryl, cetyl, stearyl, or oleyl alcohol sulfate. As humectant a polyhydric alcohol is added, for example glycerine, diethylene glycol and sorbitol. Carnauba wax and beeswax may be included. A neutral salt is incorporated in the formula to form by double decomposition with the sodium sulfate a relatively insoluble sulfate and a salt more soluble than sodium sulfate. Calcium chloride is suggested for this purpose. The pH of the composition may be adjusted by the addition of citric acid.

A liquid shampoo contains a detergent consisting of one or more alkali, ammonium and triethanolamine salts of sulfated alkyl alcohols with 12 to 18 carbon atoms. The emulsion also comprises minor proportions of vegetable oil and wax and sufficient water to achieve the desired consistency. Both products are patented by Ashe Laboratories Ltd., England. British patent 692,420 and 688,465, respectively.

Other liquid shampoos are prepared by treating castor oil, oleine or fatty acids with sulfuric

(Turn to Page 111)



# caustic potash

mining  
refining  
manufacturing

CAUSTIC POTASH  
—all standard grades  
CARBONATE OF POTASH  
—all standard grades  
POTASSIUM CHLORIDE  
—refined and technical grades  
SULFATE OF POTASH  
LIQUID CHLORINE  
MURIATIC ACID

*International Caustic Potash* is virtually free of impurities, consistently low in iron, copper, and nickel. You can depend on it for the uniformity you require to control the production of soap that meets your quality and grade consistency standards. The *International* office near you can arrange for prompt shipments of Caustic Potash in the quantities you need.

#### FOR SOAP MAKING

Special low iron grade—45-50%. Available in 675 lb. drums and tank cars.

#### GENERAL CHEMICAL USE

**SOLID**—90%. Available in 700 lb. drums.

**FLAKE**—90%. Available in 100, 200 and 400 lb. drums.

**GRANULAR (BROKEN)**—90%. Available in 100, 210 and 425 lb. drums.

**LIQUID**—Iron free, a clear water-white solution of 45%. Available in tank cars and 675 lb. drums.

**LIQUID**—Special low chloride, iron-free grade—45%.

**AMERICAN SELECTED WALNUT**—Available in 100, 210 and 425 lb. drums.

#### INTERNATIONAL MINERALS & CHEMICAL CORPORATION

*Address all inquiries to Industrial Sales Dept., Potash Division.*

*General Offices: 20 North Wacker Drive, Chicago 6;*

*61 Broadway, New York 6; Midland, Texas.*

By John W. McCutcheon

**G**ENERALLY speaking, the writer seldom has time to read the numerous company magazines that reach his desk. However, in this day and age one can hardly afford to overlook them since frequently they contain many new and interesting ideas.

Because most of us are specialists we tend to look first for new ideas in those publications and in that literature aimed directly at our special fields of interests. Thus, the new and often valuable ideas contained in company magazines may not seem at once to be directly applicable to the type of work all readers are engaged in. However, new ideas of this sort are valuable in that they stimulate thought not only about the work to which they apply directly but to other fields as well. In addition, they may contain the seed of an idea that will aid in the solution of the problem of the reader in a totally different type of work.

An idea that may not have current application may be valuable as background information to some situation that arises later. It may be placed in a filing cabinet or filed away as a mental note. In reading, the mind operates something like an IBM sorting machine—it discards, files or stimulates action.

If this be metaphysics, make the most of it. Exercising the mind in speculating on ideas is as necessary as physical exertion and aids in mental development.

In connection with this idea of reading in business, it is interesting to note that at the spring meeting of the American Chemical Society, one paper presented dealt with trade and business magazines and the types of most value to soap and detergent producers and marketers.

Getting down to specific cases, an article in the July-August



issue of *The Givaudanian*, external company magazine of Givaudan-Delawanna, Inc., 330 W. 42nd St., New York 36, N. Y., is of such wide interest to soapers that it deserves special mention here. The name of the article is "The Magical Sense of Smell," and it was written by Will Bernard. Actually the article in *The Givaudanian* is reprinted from the May issue of *Today's Health*. The writer missed the article the first time around, but is very glad he finally did have an opportunity to read it. It begins as follows: "Right between your eyes you are carrying around one of the most marvelous gadgets in the world: your nose." (And to think how Marciano and Moore kick it around!) Anyway, the article is not going to be spoiled by any review here. If anyone is unable to obtain the original, the writer has a few copies that he will gladly mail out, thanks to Givaudan-Delawanna.

Perfuming soap is an art on which many books and articles have been written. Actually, the trick of a good odor belongs to the statistician who can predict what most people like rather than what the chemist thinks is suitable.

The writer remembers a case in which a new soap was being launched. The size, shape, color and

base were all sublimely agreed on. Everything was going fine until the point of odor came up. It was then found that the president had his own notions of what the perfume should be. It had to be one he liked, period! He had his way; naturally. Less than a thousand cases were made and it is believed that most of this went as gifts to the president's friends. Shortly thereafter, to the writer's direct knowledge, the president went into the cement mixing business, although any connection between these two events belongs purely in the realm of cogitation.

\* \* \*

**S**PEAKING of odors—with all this advertising on body odor and bacteria killing ingredients in soap—do people actually smell better or worse? Perhaps this is a rather indelicate subject to bring up here and it may just be that the writer's nose has become sensitized by all the talk. However, the feeling persists here that people do *not* smell better. Could it possibly be that the bacteria have a function about which we do not as yet know?

Then again, on the same line of thought, there is the television commercial in which a young lady is put in a steam bath, rubbed with an antiperspirant to prove that perspiration is prevented in the areas treated. Is this good? And what does the medical association say? It always was the writer's feeling that a healthy person had to perspire to keep healthy. Now soap and water aid this function. Is it not time we stood up and fought a little on this point?

\* \* \*

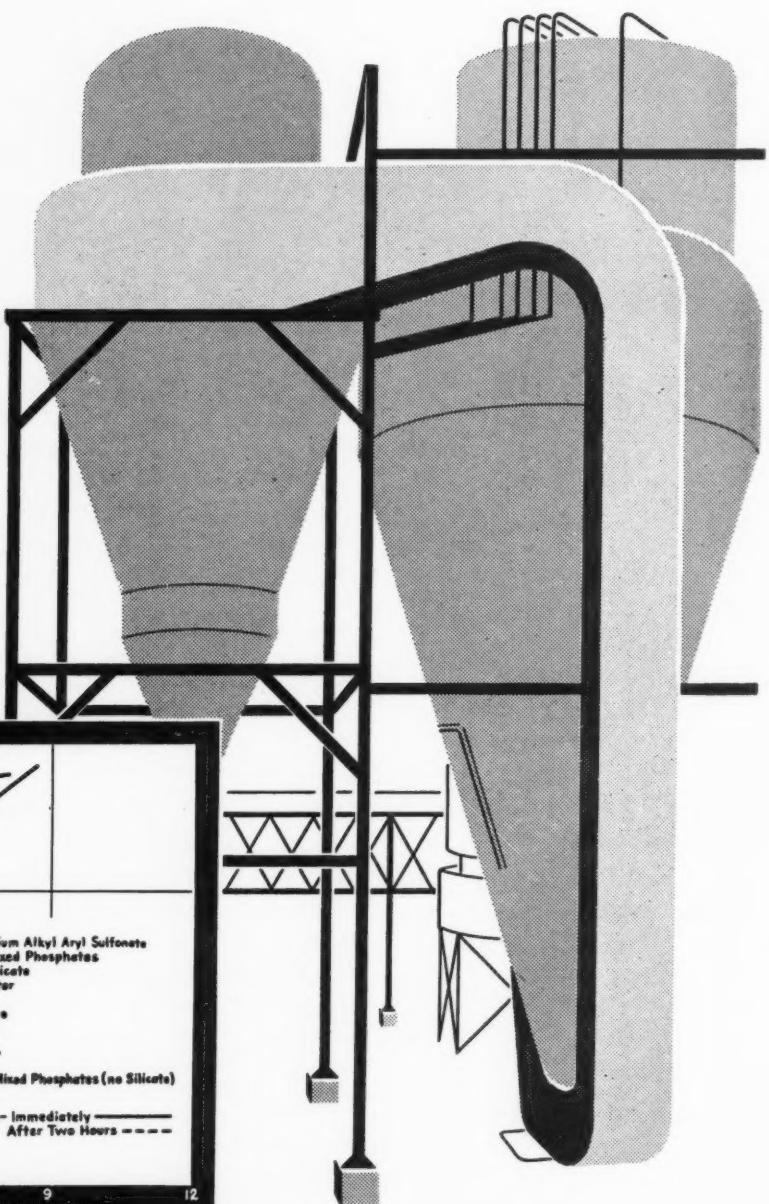
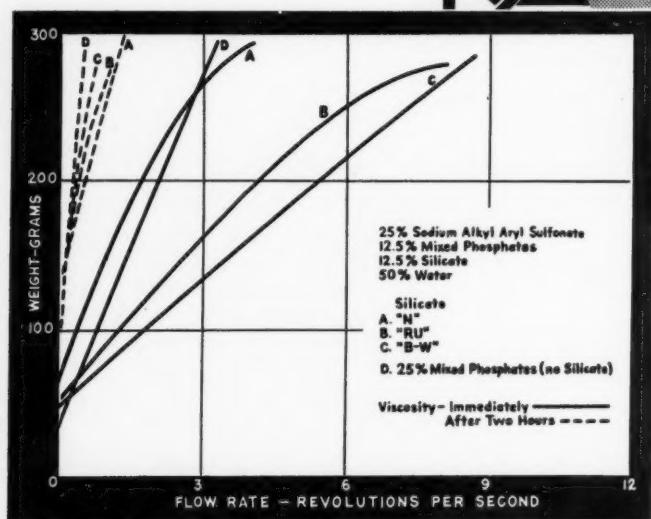
**N**OT so long ago, the writer had occasion to try on some glasses. They worked so well for his eyes, that his ears were permanently assigned the task of holding them up. Now as everyone who looks out of a window knows—you can see better when they are clean. At the last visit to the optometrist the question of how best to do this was raised. Frankly, lens tissue was becoming a bit of a nuisance. To the writer's surprise (he expected a

# Easy-flowing detergent slurries

Keeping slurries at the proper viscosity for spray drying is easier when PQ Sodium Silicates are used in synthetic detergents. Of particular interest are RU Silicate (ratio 1:2.4) and B-W Silicate (ratio 1:1.6); the lower viscosity slurries which they produce are plotted in the accompanying graph. You will want a copy of our study, "Viscosities and Solubilities of Synthetic Detergent Mixtures Containing Soluble Silicates." Ask for No. 1-17.

Along with this easy workability in the spray tower, you can count on PQ Silicates for increased detergent values and for the very important property of protecting metals from corrosive attack.

No wonder more and more synthetic detergents are being made with PQ Silicates in them.



PHILADELPHIA QUARTZ COMPANY  
1152 Public Ledger Building  
Philadelphia 6, Pa.



**PQ Soluble Silicates**  
METSO DETERGENTS

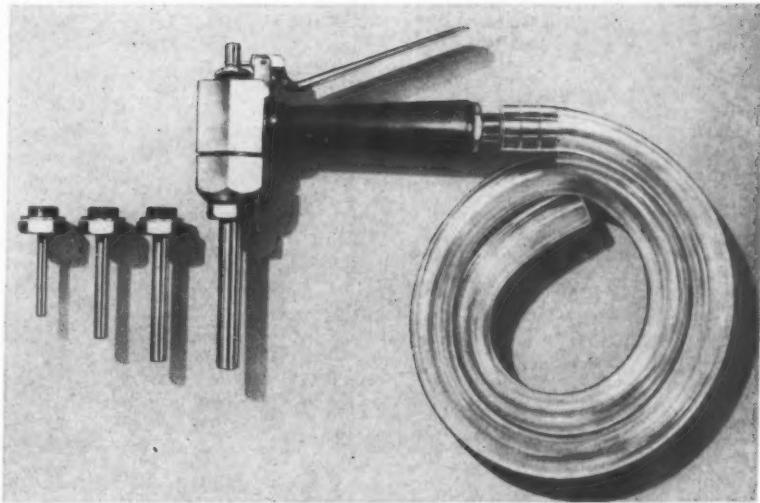
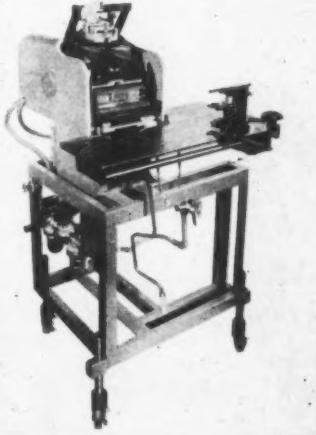
sales pitch on a new wiper at least) he was advised to rinse them occasionally under the cold water tap with a little soap and water to remove the greasy film bound to accumulate around the bridge piece. Cold water is necessary as most plastic rims are heat sensitive. Now the writer thought to himself, if soap does so much, detergents should do it better. For several months now his glasses get a periodic cold bath with a drop or two of detergent hair shampoo added for kicks. It works just fine. Now why couldn't a small tube of detergent paste be made available just for this purpose—it could be called "Eye-glass cleaner." It would have to dissolve quickly in cold water, be non-toxic to the eyes in case someone should forget to rinse, and shou'd not remove the gold plate—at least not right away! A small royalty would be welcome!

#### New Markem Printer

Data subject to variation such as color, batch number or content, can be printed directly on cylindrical lithographed or pre-printed cans by a new machine introduced recently by Markem Machine Co., Keene, N. H. The machine is designed to replace paper labels and reduce inventories of fully lithographed containers, according to the manufacturer.

Model "70AF", adjustable for marking cans ranging from 1/32 to one gallon, operates at

New Markem can printer



New U. S. Bottlers hand filler for free flowing liquids

speeds up to 1500 imprints per hour, and has a maximum imprint area of two inches by six inches.

Imprinting is done as a sliding carriage, which holds the container, is moved from right to left. After imprinting, the can is manually removed or ejected onto a conveyor. Printing element, inked as carriage returns to right, consists of a Markem masterplate with insertable type or rubber plate. Either is easily changed when imprint requirement changes.

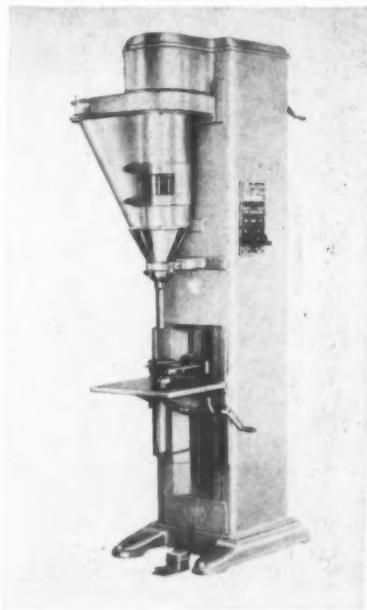
#### Improved Auger Filler

An improved universal auger filler for handling powder, paste and granular products by any of four filling methods is to be shown by Stokes and Smith Co., Philadelphia subsidiary of Food Machinery and Chemical Corp., New York, during the 4th annual Canadian National Packaging Exposition, to be held in Toronto, Nov. 8-10. The filler, Model EG, features a new driving mechanism with 40 percent fewer working parts than previous comparable models. Designed for volumetric filling, pressure packaging, gross weighing or combination auger vacuum, its capacity ranges from 1/8 ounce to five pounds. Micrometer adjustment control assures accurate fill of cans, jars, boxes, bags and other containers. Auger speed is adjustable from 500 to 1000 rpm.

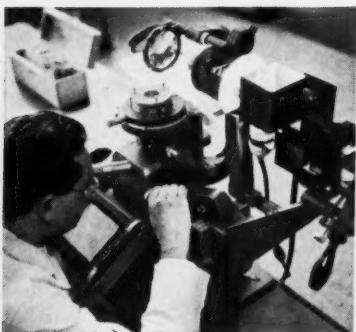
#### New Hand Filler

U. S. Bottlers Machinery Co., Chicago, recently introduced a new hand filler for free flowing liquids. The "Whitton" hand filler is designed for short runs and for standby operation in large plants. Stainless steel construction and valve parts made of "Teflon" permit handling of liquid chemicals at temperatures exceeding 300°. Four interchangeable filling stems are supplied with the gravity fed unit making it adaptable to various container sizes.

Improved Stokes & Smith filler



# OWENS-ILLINOIS ASSURES YOU A



Co-ordinated Research



Engineered Design



The Right Container

Pure research into formulae and fabrication of glass, packaging research into processing and handling methods in customer plants, and market research into consumer attitudes, add up to greater specific value for your packaging dollar.

The package that takes your product to market must take *three* needs into account. Considerations of its function in the retail store, its operating efficiency and its consumer utility all become a part of the prescription for an Owens-Illinois package.

Facilities at Owens-Illinois are versatile. Talents are varied and many. So you can count on obtaining a container exactly suited to your needs—one that blends salesmaking beauty, product protection and utility in the proportions required to attract customers.

## Starch or Detergent—



# COMPLETE PACKAGING APPROACH



The Right Closure

Know-how as to the best available liner and closure—best for packing, displaying, or using a specific product—may well be one of the most important single points through which expert packaging counsel will reward you many times over.



Needed Fitments

With emphasis on the word "needed," Owens-Illinois specialists are keenly aware of sales benefits possible through use of plastic shaker and pour-out fitments which are not "gadgets" but which increase consumer satisfaction with your product.



Merchandising Cartons

Modern cartons are developed only through systematic consideration of their opportunity to serve you in the retail store and retail warehouse as well as on your own filling line and in transit. Owens-Illinois is pioneering such developments.

## You need a Salespackage...



A well-designed and engineered package does more than just hold your product, it helps move it.

Glass can be designed and molded into a wide variety of shapes and sizes. This makes possible distinctive packages that are eye-catchers in the store. And

*one that sells  
as well as protects—  
and Owens-Illinois  
makes it.*

glass creates *repeat sales* too . . . because the glass package is easy to open and close, and, especially because it affords the convenience of perpetual inventory. Mrs. Housewife always knows how much of your product she has on hand.

Whatever product you produce, Owens-Illinois will help you plan your *salespackage*. This way you can have the services of a marketing-minded supplier with decades of experience in providing glass containers of all types, capacities and designs.

DURAGLAS CONTAINERS  
AN PRODUCT

OWENS-ILLINOIS  
GENERAL OFFICES • TOLEDO 1, OHIO

# PRIVATE LABEL AEROSOLS

...if you have an aerosol product  
...if you have an aerosol project  
...if you have an aerosol problem



LET

## G. BARR & COMPANY

HELP YOU ... Tens of millions

of successfully selling aerosols are custom formulated and/or filled by G. Barr & Company for many of the nation's leading concerns.

These are testimonials of leadership . . . earned through outstanding aerosol research laboratories . . . creative product development . . . meticulous quality control . . . effective production economies.

And . . . G. Barr & Company markets no products of its own.

Whether you need help in developing a new aerosol idea or in filling a current product . . . whether you need 1,000 units or a million per week, G. Barr & Company's three aerosol filling plants—New York, Chicago, Los Angeles, can take care of your requirements now. Three key locations to assure you of freight savings and on-schedule delivery.

• Aerosol filling by refrigeration or pressure.

• Aerosol packaging in metal, plastic, and glass containers.

• Aerosols as sprays, foams, powders.

• Aerosol cosmetics, insecticides, pharmaceuticals, waxes, cleaners, polishes, household products . . . your new product idea.

Address inquiries to: 3601 S. Racine Avenue, Chicago 9, Illinois

## G. BARR & COMPANY

Plants in: New York • Chicago • Los Angeles

for  
catalytic  
*Sales*  
action



package your product in colorful

**ABP** paper bags

Packaging your product in ABP Paper Bags speeds up *sales* action just as adding a catalyst accelerates *chemical* action.

ABP Bags are imaginatively styled and brightly colored to catch customers' eyes and strongly identify your product and your company. Printing, photographs and art are reproduced clear and sharp.

ABP Bags are functional, too—in many cases much more so than old-fashioned drums and other rigid containers. They're available with waterproof, airtight linings of pliofilm, polyethylene or other heat-sealable materials to protect product quality. They can take a surprising amount of abuse in handling, and resist tearing even when containing abrasive products.

Trouble-free filling and sealing on high speed automatic equipment are assured by ABP Bags' stand-up design, precision manufacturing and sturdy construction. Because they're compact, they store and handle easily. ABP Bags also save on distribution costs. Send for ABP's new folder for complete details.

# American Bag and Paper Corp.

50 YEARS OF PACKAGING PROGRESS  
PHILADELPHIA 47, PENNSYLVANIA



SEND FOR  
FREE FOLDER  
showing how you  
can increase sales  
and profits with  
ABP Paper Bags.

AMERICAN BAG AND PAPER CORP.  
WATER AND SOUTH STREETS, PHILADELPHIA 47, PA.

Please send a free copy of your new folder.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

COMPANY \_\_\_\_\_



ZONE \_\_\_\_\_ STATE \_\_\_\_\_

# November 1st...

Closing date for entries in the 1955 AEROSOL AWARDS package competition is November 1. Awards to be made at the 42nd Annual Meeting of the

## CHEMICAL SPECIALTIES MANUFACTURERS ASSOCIATION

AT THE ROOSEVELT HOTEL, NEW YORK

DECEMBER 5-7, 1955

. . . to include judging and selecting of best aerosol packages of the year

Divided into ten classes as follows:

1. Insecticides, repellents, moth proofers.
2. Room deodorants.
3. Lacquers, enamels, other protective coatings; paint remover.
4. Other household products—polishes, glass cleaner, rug shampoo, water repellent, etc.
5. Shave products.
6. Hair preparations.
7. Other personal products — shampoo, body deodorants, sun tan oil, drugs, etc
8. Snow, all types.
9. Industrial products — lubricants, belt dressings, stencil inks, etc.
10. Glass and plastic packages — all products.

...a top award for "best in the show" will also be made

### Rules of the contest:

1. All entries will be made in the name of the brand owner or marketer.
2. Entries will close November 1, 1955. All entries should be sent as soon after Sept. 20 as possible to the Committee at the CSMA office, and should comprise one completely assembled empty container with attached tag showing (a) name and address of brand owner, (b) class in which entry is made.
3. Only one entry may be made by any marketer or brand owner in any one class, but entries may be made in as many classes as desired.
4. Entries are open to any aerosol brand owner or marketer anywhere, and are not restricted to members of CSMA. There are no entry fees or other charges to entrants.
5. Best packages will be selected in ten classes and a "best package in the show" will be named. Judging will be done by a group of qualified experts. Their decisions will be final and will be announced and awards made at the 42nd annual meeting of CSMA in New York.

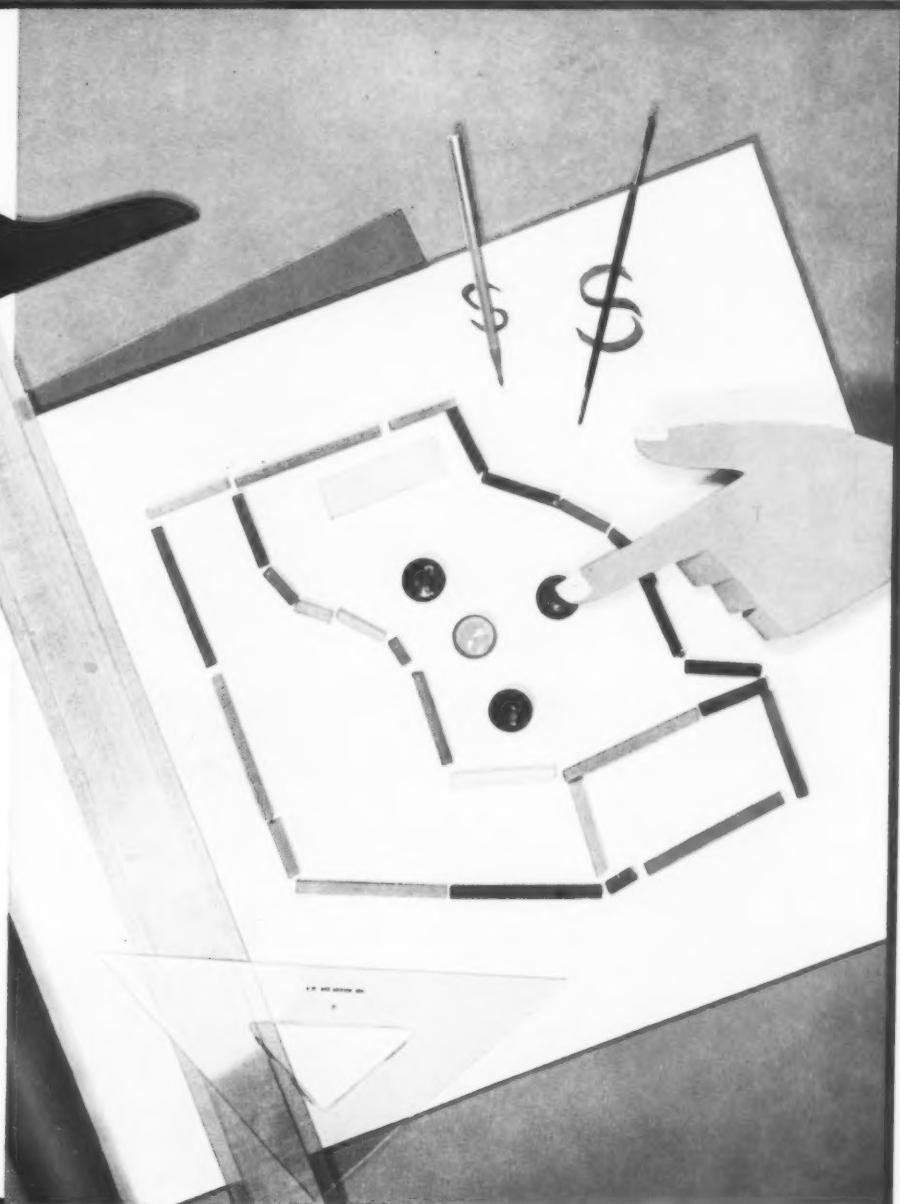
For entry blanks or information, write to  
**AEROSOL AWARDS COMMITTEE**  
Chemical Specialties Manufacturers Association  
50 East 41st St., New York 17, N. Y.  
Make Plans for Your Entries Now!

Why  
GAIR  
graphic  
design  
rings the  
bell



**GAIR**  
ACM

creative  
engineering  
in packaging



Graphic design makes the big difference between a carton that carries your product and one that *sells* it.

At Gair we make sure our designers look past their chalks and watercolors to the cash register that hands down final judgment on any carton's graphic design.

Our way of making sure is Gair Package Analysis\*. This study of your market, distribution and product gives Gair artists a line on the kind of graphic design that rings a bell with your customers.

Any good carton designer can make color do tricks on paperboard. But a Gair graphic designer knows which tricks *pay off*.

\**Gair Package Analysis* is a service designed to uncover the requirements of a successful carton for your product and your market. One of our men will be happy to give you the whole story.

FOLDING CARTONS • SHIPPING CONTAINERS  
PAPERBOARD • KRAFT BAGS AND WRAPPINGS

ROBERT GAIR COMPANY, INC.  
155 EAST 44TH STREET  
NEW YORK 17, N.Y.

## HOW TO SAVE MONEY



Relieve warehouse overload.



Combined orders can cut costs.

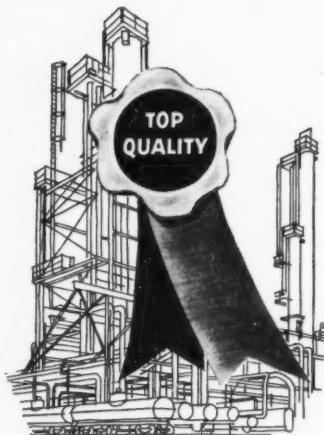


Reduce paperwork—one shipment, one order, one invoice.

## BUYING SOLVENTS AND CHEMICALS



Fast action—one day service.



Products of the nation's leading producers.

### **Products of the SOLVENTS and CHEMICALS GROUP**

Aliphatic Petroleum Naphthas

Alcohols and Acetates

Alkanolamines

Aromatic Solvents,  
Petroleum and Coal Tar

Chlorinated Paraffins

Chlorinated Solvents

Dresinates

Glycols and Glycol Ethers

Ketones and Ethers

Oils and Fatty Acids

Plasticizers

Rosin

Stearates

Terpene Solvents

Waxes

**IN DRUM, TANK-WAGON, TRANSPORT AND TANK CAR FROM 17 SERVICE LOCATIONS**



### **THE SOLVENTS AND CHEMICALS GROUP**

2540 WEST FLOURNOY STREET, CHICAGO 12, ILLINOIS

Bulk Plants and Warehouses

BUFFALO, Bedford 1572

CHICAGO, SEELEY 3-0505

CINCINNATI, Elmhurst 1-4700

CLEVELAND, Clearwater 2-1100

DETROIT, WALNUT 1-6350

FORT WAYNE, ANTHONY 0213

GRAND RAPIDS, CHERRY 5-9111

HOUSTON, ORCHARD 2-6683

INDIANAPOLIS, MELrose 8-1361

LOUISVILLE, ATWOOD 5828

KANSAS CITY, CHESTNUT 3223

DALLAS, FEDERAL 5428

MILWAUKEE, GREENFIELD 6-2630

NEW ORLEANS, TEMPLE 4666

ST. LOUIS, GARFIELD 1-3495

TOLEDO, JORDAN 0761

WINDSOR, CLEARWATER 2-0933

*Magnetic* MERCHANDISING



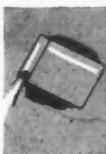
...for Whipped Drene  
Shampoo  
and your product, too!

In this suave push-button bottle, filled by Continental, lies the essence of magnetic merchandising for Procter &

Gamble's new Whipped Drene Shampoo. Push-button containers invite immediate attention and examination . . .

assure universal sales appeal. If now marketed in liquid form, *your product may gain new sales appeal* and value when packaged à la aerosol . . . in pressurized containers. And you need not invest a penny in equipment or personnel, for we can take care of all filling, storing and shipping. Write for information . . . now!

CONTRACT AND CUSTOM FILLING



LIQUID



SPRAY



FOAM

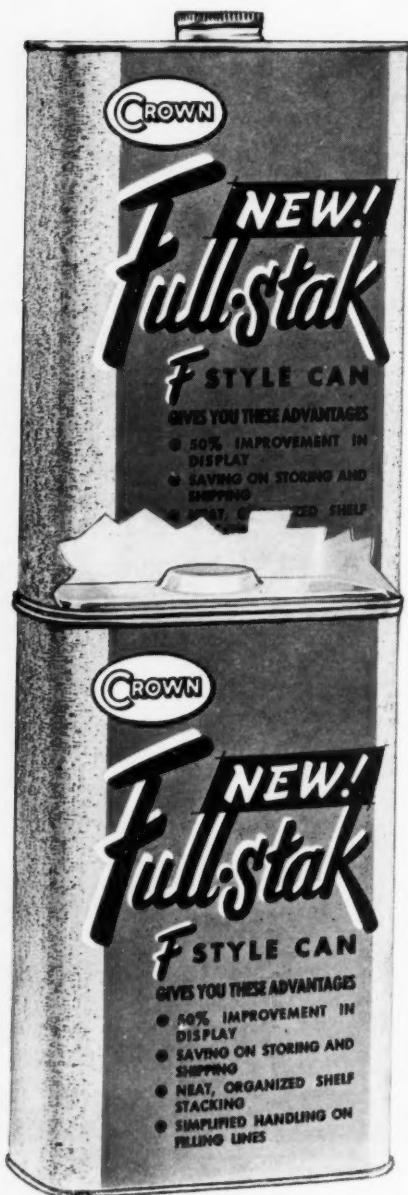
MAIN OFFICE • 123 NORTH HAZEL STREET, DANVILLE, ILLINOIS

**CONTINENTAL FILLING CORPORATION**

PLANTS • DANVILLE, ILLINOIS — HOBART, INDIANA



Crown's new design has the nozzle in the center, and the bottoms have a drawn recess which registers on the nozzle of the supporting can.



# CROWN IS *First*

## with Full-Stacking "F" style cans

Crown is first to create a full-stacking "F" style can. The bottom seams of the upper can rest securely on the top seams of the lower can, thus giving perfect stability to the stack.

### GET ALL THESE "PLUS" ADVANTAGES

#### + 50% IMPROVEMENT IN DISPLAY AT POINT OF SALE

All of these cans stack rightside up with labels legible. No pyramiding, no inverting of alternate rows necessary as in the past.

#### + SAVING ON STORING AND SHIPPING

Cubic volume reduced because cans nest together perfectly. Conserves storage space. Permits higher weight minimum, lower freight rates.

#### + NEAT, ORGANIZED SHELF STACKING

These new cans are so easy to organize on the shelf, so stable when they're stacked, that mass displays of them always "look their best" to win sales.

#### + SIMPLIFIED HANDLING ON FILLING LINES

Spout is uniformly "top and center." No indexing problem.

**QUART AND PINT SIZES NOW AVAILABLE  
AT NO INCREASE OVER STANDARD PRICES.  
ORDER NOW! CONTACT YOUR CROWN  
SALES REPRESENTATIVE!**



"BIG Enough to Serve You . . . SMALL Enough to Know You"

**CROWN CORK & SEAL COMPANY, INC.  
CAN DIVISION**

PHILADELPHIA • CHICAGO • ORLANDO • BARTOW • BIRMINGHAM • BALTIMORE • NEW YORK • BOSTON • ST. LOUIS • SAN FRANCISCO

# Packaging NOTES

## Advance Sonneborn, Stokes

Two top executive posts were filled recently by Stokes & Smith Co., Philadelphia, subsidiary

of Food Machinery & Chemical Corp. J. Russell Sonneborn becomes general sales manager. With the company for many years, his ex-



J. Russell Sonneborn



John S. Stokes, Jr.

perience embraces sales, engineering and production.

John S. Stokes, Jr., formerly assistant to the company manager,

Ala., it was announced recently by Gordon D. Zuck, president. Mr. Jones is in charge of all manufacturing operations at the firm's Birmingham plant. Vulcan is currently adding a new building which will provide a 50 percent increase in manufacturing and storage area.



Paul A. Jones

## Patrick to Stokes Machine

Loren A. Patrick has joined the Los Angeles sales staff of F. J. Stokes Machine Co., Philadelphia, as a sales engineer, it was announced recently by Ray Anderson, district manager. Before joining Stokes, Mr. Patrick was associated with North American Aviation, Inc.

## Plastic Bottle Liner

The range of materials packagable in polyethylene bottles has been considerably expanded by development of an inside coating for these bottles, says Plax Corp., West Hartford, Conn. Permeation of polyethylene by certain substances, such as oils and perfumes caused loss of contents, surface greasiness or collapse of bottles. Linings commercially available from Plax have been found efficient for packaging water-in-oil emulsions, mineral oil, etc. Permeation by a number of essential oils is also reduced. The linings are invisible to the naked eye or can be colored. Appearance, feel, and characteristics of lightweight unbreakable plastic containers are said to remain unaffected.

Currently linings are applied to round and other simple shapes with neck finishes of 1mm or larger, in capacities from one ounce up. Plax is working on application to more complex bottle shapes and on development of other type linings.

has been appointed customer service manager. Before joining Stokes & Smith in 1946 he gained industrial experience as a packaging engineer.

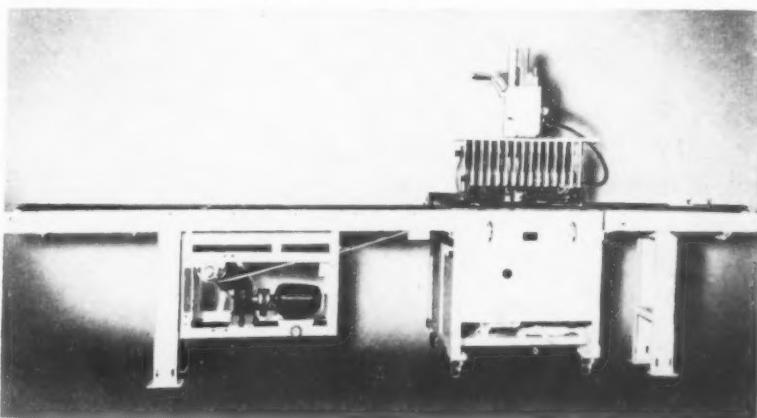
## Vulcan Plant Manager

Paul A. Jones has been named plant manager of Vulcan Steel Container Co., Birmingham,

## Improved Ertel Filler

Ertel Engineering Corp., Kingston, N. Y., announced recently an improvement on its "ESA" vacuum bottle filler. This machine is now available with a conveyor attachment, which feeds the bottles to the filler and discharges them

after filling, sending them to the capping and labelling section. The conveyor eliminates breaks in the filling operation. Driven by a one quarter horsepower motor, the attachment features a variable speed drive, is constructed of steel sections.



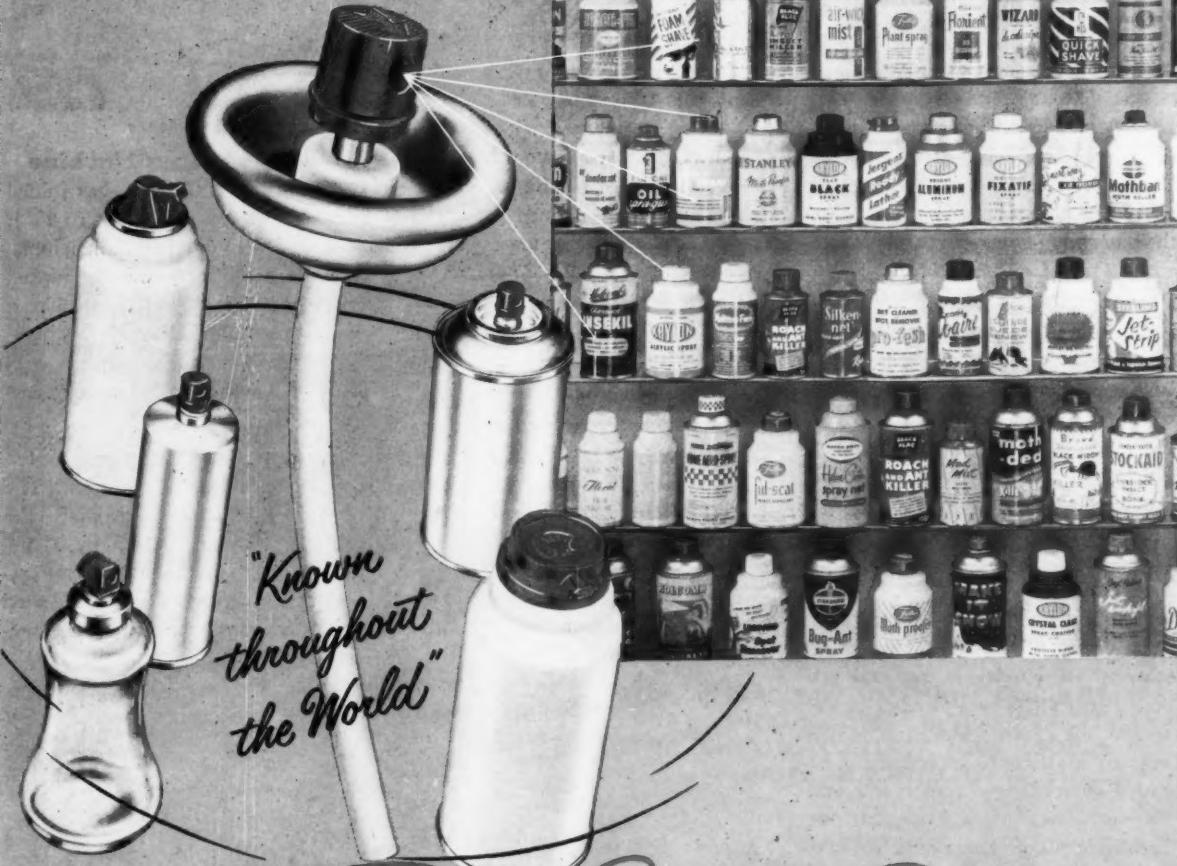
# THE *Aerosol Valve* FOR YOUR PRODUCT by Precision

The picture tells a story... the story of overwhelming popularity, tremendous growth and continued reliance on a quality product...

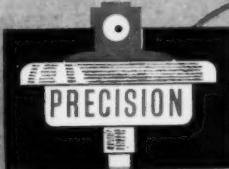
## PRECISION VALVE.

The use of over 200,000,000 time-tested valves by hundreds of completely satisfied customers throughout the world, is your assurance that PRECISION has the answer to your aerosol program regardless of product or container.

We invite your inquiry to enable our staff of aerosol valve technicians to work cooperatively in satisfying your valve requirements.



"Known  
throughout  
the World"



## Precision Valve Corporation

700 NEPPERHAN AVENUE • YONKERS 3, NEW YORK

## Packaging Forum Oct. 31-Nov. 2

**L**UCIUS D. CLAY, chairman of the board, Continental Can Co., New York, will give the keynote address at the 17th annual forum of the Packaging Institute to be held at the Statler Hotel, New York, Oct. 31 through Nov. 2. Theme of the forum, "The Pulse of a Ten Billion Dollar Industry," will be presented on Monday afternoon, Oct. 31, in "management day addresses" by the following speakers: Fen K. Doscher, vice-president, Lily-Tulip Cup Corp., New York; Charles W. Kaufman, vice-president, Kraft Foods Co., Chicago; Joel Y. Lund, president of Lambert Pharmacal Co., St. Louis, Mo., and William Naden, executive vice-president of Esso Standard Oil Co., New York.

Two all-day seminars will be held concurrently on Tuesday, Nov. 1. The drug and pharmaceutical seminar under the chairmanship of L. H. Zahn, Ciba Pharmaceutical Products, Inc., New York, includes the following presentations:

"New Identification Scanning Devices for Folding Cartons," by William B. Leavens, Jr., president, Wilkata Folding Box Co., Kearny, N. J.; "New Packaging Developments and Long Term Economies," by Bradley Dewey, president, Bradley Container Corp., Maynard, Mass.; "New Plastics Materials for the Pharmaceutical Field," by Robert A. Glaenzer, vice-president, Plax Corp., Hartford, Conn.; "New Method for Determination of Moisture Vapor Transmission of Pharmaceutical Closures" by George H. Hopkins, West Co., Phoenixville, Pa.; and the "The Mylar Story" by M. L. White, film department, E. I. du Pont de Nemours & Co., Wilmington, Del.

At the same time the folding carton seminar, under the chairmanship of Walter F. Daley, New Haven Board & Carton Co., New Haven, Conn., will hear the following papers:

"Folding Carton as a Packaging Medium," by Mr. Daley; "Design and Purpose of Carton Art," by Egmont Arens, industrial designer, New York; "Construction and Styles," by John F. Hagar, Gardner Board & Carton Co., Middletown, Ohio; "Government Speci-

fications," by N. W. Postweiler, Business and Defense Service Administration, Department of Commerce, Washington, D. C.; "Paperboard: Grades, Characteristics and End Use," by W. J. Alford, II, Alford Cartons Division, Ridgefield Park, N. J.; "Quality Control in the Consumer's Plant Covering the Use of the Carton," by E. S. Petze, Scott Paper Co., Chester, Pa., and several others.

On Tuesday morning Nov. 1, a materials seminar and education seminar will be held at the same time. In the afternoon there will be a contract packagers' and a corrugated and solid fibreboard shipping container seminar. The contract packagers' session, under the chairmanship of William T. Ropp, Sr., Pack-It, Inc., Newark, N. J., has scheduled the following papers:

"Aerosols in the Packaging Industry" by Harold Lee, G. Barr & Co., Chicago; "Mission of Individual Service Packages," by Edwin W. Mason, Mason-Keller Corp., Roseland, N. J.; "Better Communications between Contract Packagers and their Customers," by George E. Seibel, Cenpro Corp., Northfield, Ill.; "Contract Packaging from the User's Point of View," by F. T. Pickerell, Schering Corp., Bloomfield, N. J.; "Contract Packaging as a Major Aid to Industry," by Robert H. Finkelstein, A. D. Finkelstein & Co., Fort Lee, N. J.

Allyn C. Beardsell, Container Laboratories, Inc., Chicago, will be chairman of the fibreboard container seminar. Among other speakers, Frank Coons, Johnson & Johnson, New Brunswick, N. J., will present a talk on "The Johnson & Johnson Basic Pallet Patterns and other Warehouse Economics."

Wednesday morning's, Nov. 2, program will include a contribution by F. L. Wurzburg, Jr., Interchemical Corp., New York, on "Problems of Establishing a Standard Light Source," as part of the printed packaging materials seminar. Chairman will be L. R. Ayers, Robert Gair Co., New York.

The adhesion seminar with Irving Sipherd of National Distillers Products Corp., New York, as chairman will evaluate the pros and cons of various factors in glass adhesion.

R. I. Drake, Champion Paper & Fibre Co., Hamilton, Ohio, will speak on label stocks; Austin Sanborn, Nashua Corp., Nashua, N. H., on pre-applied adhesives; Sidney Carter, Economic Machinery Co., Worcester, Mass., on application and transfer method; Wm. Sederlund, National Starch Products, Inc., New York, on various types of adhesives; and John Scharf, Armstrong Glass Co., on various glass types.

A production line seminar will include a talk entitled "Modernizing a Filling Line" by H. L. Jaggard, Socony Mobil Oil Co., and the films and foils seminar will hear L. F. Borchardt, General Mills, Inc., Minneapolis, and L. E. Simerl, Olin Film Division, Olin Mathieson Chemical Corp., New York.

On Wednesday afternoon, Nov. 3, Robert G. Neubauer of Robert G. Neubauer, Inc., Bridgeport, Conn., will be chairman of a seminar dealing with case histories of package design accomplishments. At the same time the packaging machinery automation seminar, under the chairmanship of W. B. Bronander, Jr., Scandia Manufacturing Co., North Arlington, N. J., will include the following presentations:

"Planning and Evaluating New Machine Requirements," by C. A. Wetli, Hudson-Sharp Machine Co., Green Bay, Wis.; "Suggested Procedures for Purchasing Packaging Machinery," by W. E. Coughlin, Pneumatic Scale Corp., North Quincy, Mass.; "Installation, Maintenance and Servicing Problems as Viewed by the Machinery Manufacturer," by Harold Mosedale, Jr., Package Machinery Co., Springfield, Mass., and "Technical Service Departments—'Behind the Scenes' Coordinators of the Packaging Industry," by Frank DiFranco, Olin Mathieson Chemical Corp., New York.

### "Genetrons" Plentiful

For the first time in several years aerosol propellants are in plentiful supply according to a recent statement by General Chemical Division, Allied Chemical & Dye Corp., New York, manufacturers of "Genetron" fluorinated hydrocarbons. General's new "Genetron" plant at Danville, Ill., was to have been in production at the beginning of October, adding to the flow of these products.



# What's New?

## Facing page, l. to r., top to bottom

New "Prompt" all-surface cleaner of West Disinfecting Co., Long Island City, N. Y. Novel feature is way product is dispensed. Inside lining of plastic cap, which has opening in its center, is removed and cleaner is sprinkled on applicator or surface to be cleaned. Black and red label by Arden Press, New York; handi-grip, eight ounce bottle by Diamond Glass Co., Philadelphia and cap by Jesselson Sales, New York.

New home laundry size package of "Tide" by Procter & Gamble Co., Cincinnati, contains more than 16 pounds of detergent. Package features polyethylene bag liner, fold-up handle for carrying and zip-dash opener. Package by Container Corp. of America measures 11½ x 8¾ x 17¾ inches. 50 cent mail-in certificate comes with each package during introductory period.

"Cocoanut Oil Castile Shampoo", newest member of the line of Andrew Jergens Co., Cincinnati, is packed in 13.5 ounce clear glass bottle by Anchor Hocking Glass Corp., Lancaster, O. Bottle has attractive fluting on front and rear panels, with plain label panel inset. Sides have oval-shape, recessed area for handling convenience and firm grip. Cap is tall, brown molded screw closure with fluted skirt. Label by Alfred M. May Co., Cincinnati. Molded closure also by Anchor Hocking.

"Sergeant's Household Disinfectant", a product of Polk Miller Products Corp., Richmond, Va., is now being distributed in new package with applied color labels that will not fade or scuff. Twelve-ounce bottles, labels and white molded plastic closures are all manufactured by Owens-Illinois Glass Co., Toledo, O.

## This page, top to bottom:

New "Protex" white deodorant soap of Manhattan Soap Co., New York. Product contains "G-11" brand hexachlorophene of Sindar Corp., New York. Comes in 3¾ ounce hand and 5½ ounce bath sizes.

Mione Manufacturing Co., Collingdale, Pa., has added a waterless hand cleaner to its line of skin cleansers. Containing lanolin and "G-11" brand hexachlorophene, "Mione Waterless" is packed in 1½ pint and three quart tins. The latter, when inverted, fits into a dispenser designed especially for this type of soap.

"Lava Soap", after more than a half century has changed its color from a gray to a white bar for general family use, it was announced late last month by Procter & Gamble Co., Cincinnati. Soap is packaged in new thermoplastic wrapper.



# FITS ALL TYPE CAN LIDS

Now in Use for Self-Dispensing Pressurized Products



## THE DILL AEROSOL VALVE Open or Closed Type

A Safety-Seal, Precise-Action Valve that produces a finer, uniform molecular spray without leak or after-drip. Available in 2 styles — Ready-to-use or with Non-Pierced valve opening.

AVAILABLE WITH VARIOUS TYPE  
AND COLOR DISPENSING BUTTON  
Cellulose Acetate or Nylon Construction

Everywhere, fillers of self-dispensing pressurized products are switching to the sensational new Dill Aerosol Valves with these outstanding features —

Safety Seal Precise-Action Valve  
Fine Uniform Molecular Spray  
No leak or after-drip

Types for Various Products and Cans  
Easy Assembly and Application

Check these valuable merchandising and money-saving production advantages for your product. Write for full engineering details and test samples.

THE DILL MANUFACTURING COMPANY  
700 East 82nd St., Cleveland 3, Ohio

A PRODUCT OF 45 YEARS'  
EXPERIENCE IN THE DESIGN  
AND MANUFACTURE OF  
SAFETY SEAL VALVES

# DILL

# AEROSOL VALVES

U.S. Pat. Applied For



New "Lezam" carton gluer of Ever-Seal Industrial Glues, Inc., New York, for dispensing low cost liquid glue in even coat over areas of any size.

#### New Carton Gluer

A new gluer designed to seal cartons more securely than gummed tape or staples was announced recently under the trade name, "Lezam," by Ever-Seal Industrial Glues, Inc., New York. The new unit dispenses low-cost liquid glue in an even coat over areas of any size. In addition to claimed economy in speed, the gluer can also handle un-gummed labels. The complete, portable unit, when filled with one quart of adhesive weighs approximately five pounds. The cost is \$39.50, fob New York.

#### Purdue Packaging Course

A four week institute for packaging personnel is being offered by Purdue University, West Lafayette, Ind. Classes in the school's division for adult education begin Oct. 10, Nov. 28, and Feb. 6, 1956. Registration fee is \$150.

#### Seamless Metal Cans Line

Seamless metal cans, small and light-weight, for laboratory, production line and packaging use, were introduced recently by George D. Ellis & Sons, Inc., Philadelphia, Pa.

The line includes "Label-Stik" cans for packaging and identifying products; plain seamless slip

cover or full open screw top cans for products that do not require identification or that require a private brand label; flanged top cans for hermetic sealing; decorated seamless cans lithographed to order, and special seamless cans made to individual specifications. "Ellisco LabelStik" cans have a "Crimptite" lid, holding a label that can be specially printed, come in eleven capacities from  $\frac{1}{4}$  ounce to 16 ounces. Five sizes have an outwardly curled "San-I-Safe" edge. Two styles of plain seamless cans are offered: flat, in capacities from  $\frac{1}{16}$  ounce to 16 ounces, and deep, from  $\frac{1}{2}$  ounce to 16 ounces. Deco-

ated cans, available in sizes from  $\frac{1}{16}$  ounce to 16 ounces, can be lithographed in any color, design or wording. Full open screw top cans are available in eight sizes from  $\frac{3}{4}$  ounce to 16 ounces. Flanged cans with compound lined tops for hermetic sealing after filling are available in nine sizes from  $\frac{1}{2}$  ounce to 16 ounces.

#### New Oil Resistant Paper

A new paper, resistant to passage of oil, water and other liquids but permeable to air, has been developed by Riegel Paper Corp., 260 Madison Avenue, New York 16. The company is seeking suggestions for applications of this paper, particularly in the packaging field.

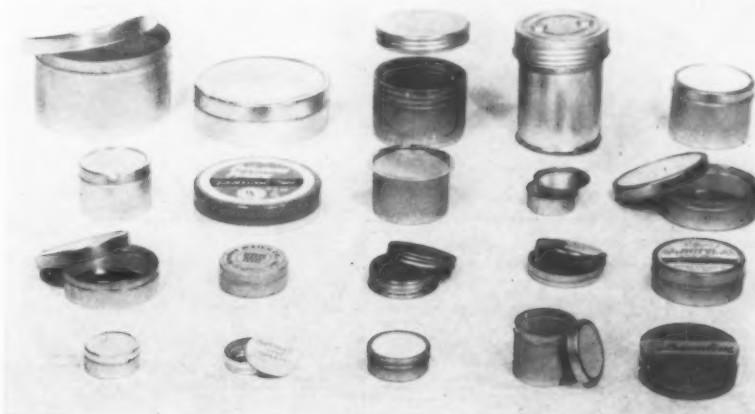
#### Plastic Drum Faucet

A polyethylene plastic drum faucet was introduced recently by Multi-Meter Corp., Toledo, Ohio. Designed to fit all  $\frac{3}{4}$  inch standard drum openings it is said to combine light weight and resistance to acids, alkalies, and oils, with an attractive price. It comes in bronze color, but special colors are available in quantity.

#### Continental Names Franz

R. W. Franz has been appointed sales manager of the general line products of the Pacific Metal Division of Continental Can Co., New York, it was announced late last month by Sherlock Mc-

Small and light-weight seamless metal cans for laboratory, production line and packaging use introduced recently by George D. Ellis & Sons, Inc., Philadelphia.



*If your product can be sprayed...*

## **CONTINENTAL HAS AN AEROSOL CAN TAILOR-MADE FOR YOU**



**DOME TOP** — Domes attached and equipped with standard 1" curled opening for all popular valves. Regular (12 oz.) or Midget (6 oz.).



**CONCAVE TOP** — Tops furnished loose and perforated with hole-punch for specified aerosol valves. Regular (12 oz.).



**DOME TOP** — Domes furnished loose and perforated with hole-punch for specified aerosol valves. Regular (12 oz.) or Midget (6 oz.).

More than 60 sprayable non-food products are now sold in Continental's three styles of aerosol cans. One of these containers will fit the exact needs of your product too. As part of Continental's Tailor-Made Package Service, we provide on-the-dot deliveries of all the cans you can use. Individualized engineering and master lithography are available...and so are contacts with valve suppliers and commercial fillers. It'll be a pleasure to advise you in any phase of your packaging operations. Why not call Continental at your convenience?

**CONTINENTAL  CAN COMPANY**

Eastern Div.: 100 E. 42nd St., New York 17  
Central Div.: 135 So. La Salle St., Chicago 3  
Pacific Div.: Russ Building, San Francisco 4



Kewan, vice-president of the division.

### Vulcan Builds Warehouse

Vulcan Containers, Inc., Bellwood, Ill., will build new storage and warehousing facilities, it was announced last month. Adjacent to the enclosed boxcar loading dock built in 1954 the addition will be unusually high and is designed for adoption of modern materials handling equipment.

### Visual Aerosol Tester

An aerosol compatibility tester made of "Pyrex" glass was introduced recently by Fischer & Porter Co., Hatboro, Pa. The device permits visual determination of whether or not interaction between propellant and product has taken place. Apart from visibility, ease of cleaning and filling, and adaptability to either laboratory use or production line are claimed for the tester. It is available as a three ounce tube and six and 12 ounce bottles.



David E. Anderson, second from left, manager of new Philadelphia quality control laboratory of Robert Gair Co., New York, describes testing techniques to, l to r., John P. Greiveldinger, general container production manager; Alfred W. Hoffman, manager of container product development and sales promotion; and E. S. Peize, materials control coordinator of Scott Paper Co., Chester, Pa., a guest at the formal opening of the new laboratory.

### Polyethylene Permeation

Stability hazards arising from polyethylene packaging of cosmetics are analyzed in the August issue of *Schimmel Briefs*,

published monthly by Schimmel & Co., New York. Product loss by permeation and deformation of filled polyethylene bottles during storage are studied in detail.

Below, top photo: Fred W. Langner (at blackboard), coordinator of packaging activities for Socony Mobil Oil Co., New York, conducting the Aug. 30 meeting of the Petroleum Packaging Committee of the Packaging Institute, at the Royal York Hotel, Toronto, Canada.

In lower photo are seen some of the 60 members of the Petroleum Packaging Committee of the Packaging Institute attending the meeting. They represent 35 petroleum companies, a cross section of the petroleum industry of the U. S. and Canada.



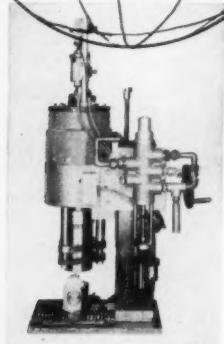
### Package Show Space Sells

Eighty-five percent of the exhibit space is sold out for the National Packaging Exposition, to be held at the convention hall in Atlantic City, N. J., Apr. 9-12, it was announced recently by the American Management Association, sponsor. The 1956 packaging show, the AMA states, gives indications that it will be even larger than this year's exposition at the International Amphitheatre, Chicago, where 3,000 square feet more of floor space is available than Atlantic City's convention hall's 130,000 square feet.

More than 300 suppliers of packaging machinery, materials and services have reserved 115,000 square feet of the convention hall. The main floor of the auditorium has been completely reserved and about two-thirds of the lower level has been booked in the two months since the first invitations to participate were mailed. Last year there

(Turn to Page 221)

**ALL OVER THE WORLD..**



**Pres-O** + **Pres-O** = **PROVEN RESULTS**



NO. 100 SERIES FOAM • NO. 300 SERIES SPRAY • NO. 500 SERIES SPRAY OR FOAM  
PROVEN RESULTS in the handling of AEROSOL Packages  
with QUALITY • SPEED • ECONOMY

ALSO: VACUUM CRIMPERS  
EVACUATORS  
AUTOMATIC FEEDERS

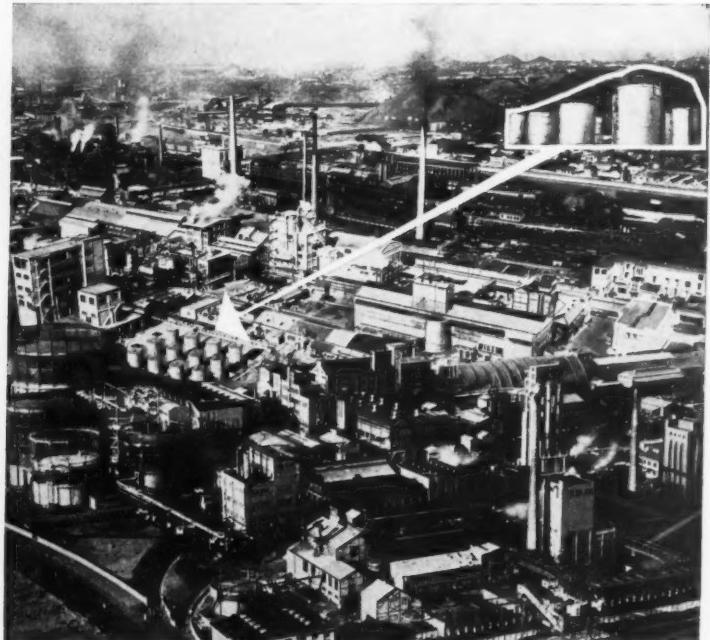
For more information write  
**OIL EQUIPMENT LABORATORIES, INC.**  
600 PEARL STREET, ELIZABETH, NEW JERSEY

SOCIÉTÉ BELGE DE L'AZOTE  
ET DES  
PRODUITS CHIMIQUES DU MARLY

The whole scale of  
pure and technical

**FATTY  
ALCOHOLS**

EXCLUSIVE SALES LICENSE :  
Société des Produits Tensio-Actifs et Dérivés  
**TENSIA**  
16, RUE ROUVEROY - LIÈGE (BELGIQUE)  
TELEGRAPHIC ADDRESS : TENSIA - LIÈGE  
PHONES : 23.79.80 - 32.29.29



# Bids and AWARDS

## Low FSS Soap Bids

In a recent opening for miscellaneous supplies by the Federal Supply Service, New York, the following low bids on soap were submitted: Kamen Soap Products Co., New York, item one, 4.9 cents; Colgate-Palmolive Co., Jersey City, N.J., item two, 12.572 cents; Stahl Soap Corp., Brooklyn, item three, 9.84 cents. June 28, inv. 61273A.

## Low FSS Soap Bids

In a recent opening for miscellaneous supplies by the Federal Supply Service, New York, the following low bids on soap were submitted: Old Dominion Paper Co., Norfolk, Va., item one, 4.9 cents; National Chemical Corp., Philadelphia, item two, 29.9 cents; Swift & Co., Chicago, item three, 6.16 cents; Colgate-Palmolive Co., Jersey City, N.J., item four, 12.688 cents. July 1, inv. 2B-63377-R.

## Low Sanitary Soap Bids

Sanitary Soap Co., Paterson, N.J., submitted the low bids of 11.5 cents, item one, and 13.5 cents, item two, on powdered borax soap in a recent opening for miscellaneous supplies by the Federal Supply Service, Washington, D.C. June 30, inv. 2B-63378-R.

## Clayton Cleaner Award

Clayton Mfg. Co., El Monte, Calif., received the award on steam cleaner with the low bid of \$6,588.34 on items one thru four, in a recent opening for miscellaneous supplies by the Navy Purchasing Office, Washington, D.C. June 24, inv. 1602.

## Low FSS Soap Bids

In a recent opening for miscellaneous supplies by the Federal Supply Service, Washington, D.C., the following low bids on soap were submitted: Colgate-Palmolive Co., Jersey City, item one, 5.167 cents; Kamen Soap Products Co., Brooklyn, N.Y., and Old Dominion Paper

Co., Norfolk, Va., item two, both bids 9.4 cents. July 28, inv. 2B-64266-R.

## Low Soap Powder Bids

Old Dominion Paper Co., Norfolk, Va., and Kamen Soap Products Co., Brooklyn, both submitted the low bids of 3.74 cents on 158,000 pounds of soap powder in a recent opening for miscellaneous supplies by the Federal Supply Service, Washington, D.C. July 12, inv. 2B-63627-R.

## Aerosol Award to Airosol

Airosol Co., Neodesha, Kans., won the award on 2,544 12-ounce aerosol insecticide bombs with the low bid of 49.4 cents in a recent opening for miscellaneous supplies by the Federal Supply Service, Chicago. July 8, inv. WCH-94081.

## Low Colgate Soap Bid

Colgate-Palmolive Co., Jersey City, N.J., submitted the low bid of 8.98 cents on soap in a recent opening for miscellaneous supplies by the Federal Supply Service, New York. July 18, inv. 63009.

## Low Surgical Soap Bids

Imperial Products Co., Philadelphia, submitted the low bid of 22.4 cents, item 1a, and 24.5 cents, item 1b on surgical soap in a recent opening for miscellaneous supplies by the Armed Services Medical Procurement Agency, Brooklyn, N.Y. July 19, inv. 833.

## Low FSS Soap Bids

In a recent opening for miscellaneous supplies by the Federal Supply Service, Atlanta, the following low bids on soap were submitted: Pal Products Mfg. Co., Brooklyn, N.Y., item one, 5.5 cents; Murro Chemical Co., Portsmouth, Va., item two, nine cents; Pacific Coast Borax Co., Los Angeles, item three, 40.85 cents; G. H.

Packwood Mfg. Co., St. Louis, item four, 55.35 cents. Aug. 4, inv. 28460.

## VA Shaving Soap Award

Campbell Products Co., Ben- senville, Ill., won the award on liquid shaving soap with the low bids of 23 cents, item one, 26 cents, item two, 23 cents, item three, in a recent opening for miscellaneous supplies by the Veterans Adminis- tration, Washington, D.C. July 7, inv. S-29.

## Low Valley, Stahl Bids

Valley Products Co., Mem- phis, and Stahl Soap Corp., Brook- lyn, N.Y., both submitted low bids on soap in a recent opening for miscellaneous supplies by the Federal Supply Service, Kansas City, Mo. Valley bid 8.25 cents, item one and two, and Stahl bid \$4,1325, item three. July 29, inv. KC 39737.

## Low Hand Cleaner Bid

G. H. Packwood Mfg. Co., St. Louis, submitted the low bid of 23 cents on hand cleaner in a recent opening for miscellaneous supplies by the Federal Supply Service, Cleveland. July 21, inv. WCL- 6720.

## Emulsol Names Execs.

Solomon Epstein, executive vice president of Emulsol Chemical Corp., Chicago, Division of Witco Chemical Co., has been named general manager of the division, it was announced recently.

At the same time Charles Fuchs was elected vice president in charge of research and development for Emulsol. He had previously held the position of chief chemist.

## Cream Shampoos

(From Page 89)

acid and neutralizing with alkali. Flowers of sulfur or oils rich in vitamins such as wheat seed oil may be incorporated if desired. British patent 680,200, H. Brunel. (*Through Manufacturing Chemist*, Aug., 1955).

*Oh so different!*

# EMCOL 4400A

## *the Brand New “Clean-Up-Man”*

### *on Your Team*

For detergent formulation, no surfactant "scores" as often as Brand New EMCOL 4400A! What's so different about EMCOL 4400A? PLENTY!

#### **Look at these important advantages:**

- 
  - 1 90% active nonionic-anionic concentrate — for lower freight bills.
  - 2 Can be formulated with phosphates.
  - 3 Produces profuse and stabilized foam.
  - 4 Mild in odor for economical perfuming.
  - 5 Low cost per formulated gallon.
  - 6 Corrosion inhibited — can be shipped in unlined drums.
  - 7 Controlled viscosity for easier handling.
  - 8 Excellent wetting, detergency, and rinsing properties.

And Brand New **EMCOL 4400A** is market approved for:  
**Bar Glass Cleaner • Institutional Liquid Dishtergent**  
**Car Washing Compounds • Floor Cleaners**  
and other detergent applications.

Developed by EMULSOL, with over a quarter of a century's accumulation of colloid chemical know-how, broad experience and extensive research. Why not get the complete story today? Technical data is available on request from your local Emulsol technical representative, or write us.



**EMULSOL CHEMICAL CORPORATION**  
a division of the  Witco Chemical Company  
59 EAST MADISON STREET • CHICAGO 3, ILLINOIS, U.S.A.

## NEW Trade Marks

**T**HE following trade marks were published in recent issues of the *Official Gazette* of the U. S. Patent Office in compliance with section 12(a) of the Trade Mark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the *Gazette*. See rules 20.1 to 20.5. As provided by section 31 of the Act, a fee of \$25 must accompany notice of opposition.

**Glee**—This for liquid floor wax. Filed Dec. 13, 1954 by Grace-Lee Products, Inc., Minneapolis. Claims use since on or about Nov. 1, 1954.

**Haze-Fades**—This for liquid furniture cleaner and polish. Filed Dec. 16, 1954 by Joe B. Olkowski, doing business as Haze-Fade Co., St. Louis. Claims use since September 1944.

**Donaco**—This for rodent poisons, insecticides, and the like. Filed Dec. 7, 1954 by Donco, Inc., Englewood, Colo. Claims use since on or about Aug. 16, 1954.

**Trypsodent**—This for dentifrice. Filed June 24, 1954 by Harry Roth, New York. Claims use since Apr. 4, 1953.

**Reet**—This for composition for use as a bowl cleaner and disinfectant. Filed Dec. 13, 1954 by Grace-Lee Products, Inc., Minneapolis. Claims use since on or about Dec. 1, 1954.

**Stanzell**—This for all purpose detergent. Filed Feb. 3, 1955 by Stanley J. Holuba, doing business as Stanson Chemicals, Jersey City, N. J. Claims use since May 12, 1951.

**carshield**—This for combination cleaning, polishing, and waxing compound for automobiles. Filed Dec. 16, 1954 by William Gartner, doing business as Carshield Wax Co., Wallingford, Conn. Claims use since on or about Oct. 27, 1954.

**d-Con FLI-CON**—This for insecticide. Filed Dec. 8, 1954 by D-Con Co., Chicago. Claims use since Aug. 2, 1954.

**Add-A-Life**—This for paint brush cleaning fluid. Filed June 12, 1953 by Add-A-Life Brush and Cleaner Co., Long Beach, Calif. Claims use since Jan. 26, 1952.

**My**—This for liquid and pulvulent detergents for dishwashing and fine laundering purposes. Filed Sept. 28, 1953 by American Alcolac Corp., Baltimore. Claims use since on or about Sept. 28, 1953.

**Metalprep**—This for rust remover and inhibitor. Filed Nov. 27, 1953 by Neilson Chemical Co., Detroit. Claims use since October 1940.

**Specs**—This for liquid eyeglass cleaner. Filed May 19, 1954 by Lowell Laboratories, Inc., Manchester, N. H. Claims use since Jan. 28, 1954.

**budding beauty**—This for toilet soap and bath soap. Filed Dec. 17, 1954 by Lehn & Fink Products Corp., Bloomfield, N. J. Claims use since on or about Aug. 18, 1954.

**Dry-A-Pon**—This for surfactant and detergent. Filed May 21, 1954 by General Aniline & Film Corp., New York. Claims use since Apr. 7, 1954.

**Grin**—This for liquid preparation for cleaning and de-greasing external surfaces of all types of motors; and an automobile washing compound. Filed Dec. 20, 1954 by Grin Chemical Corp., Pasadena, Calif. Claims use since Dec. 30, 1922.

**Bright Beauty**—This for waxes, furniture polish, glass cleaner and polish, and silver polish. Filed June 25, 1954 by Candy & Co., Chicago. Claims use since Mar. 29, 1929. Subj. to intf. with Reg. No. 585,430.

**Domino**—This for furniture polish, metal polish, floor wax, and automobile wax. Filed Dec. 10, 1954 by Artmark Associates, Inc., New York. Claims use since Nov. 1, 1953.

**Dynactol**—This for bleaches and disinfectants. Filed July 7, 1954 by Guardian Chemical Corp., Long Island City, N. Y. Claims use since Feb. 18, 1953.

**Select-O-Spray**—This for insecticides, plastic spraying compositions, deodorants. Filed Nov. 12, 1954 by Bostwick Laboratories, Inc., Bridgeport, Conn. Claims use since October 1948.

**Gulf**—This for aerosol deodorizer. Filed Nov. 19, 1954 by Gulf Oil Corp., Pittsburgh. Claims use since on or about Dec. 29, 1952.

**Annapolis**—This for brushless shaving cream. Filed Dec. 24, 1954 by Associated Brands, Inc., Brooklyn. Claims use since Jan. 1, 1933.

**Klenzade**—This for cleaners, detergents, and sanitizing detergents for industrial, dairy, and food plant equipment cleaning and sanitation. Filed Mar. 13, 1952 by Klenzade Products, Inc., Beloit, Wis. Claims use since on or about January 1933.

**Gold Medal**—This for industrial soap flakes and powder. Filed Nov. 16, 1954 by Swift & Co., Chicago. Claims use since about Apr. 1, 1931.

**Gulf**—This for motor flush. Filed Nov. 19, 1954 by Gulf Oil Corp., Pittsburgh. Claims use since on or about July 17, 1947.

**B-Cleen**—This for hand soaps. Filed Dec. 29, 1954 by Wilfred W. Beatty, doing business as Beatty Products Co., Keokuk, Ia. Claims use since Mar. 1, 1949.

**Grime-Go**—This for waterless hand cleaner. Filed Jan. 3, 1955 by K & K Products Co., Alexandria, Va. Claims use since July 10, 1954.

**Tanaterge**—This for detergents and washing compounds for general use and for use in the textile industry. Filed Jan. 4, 1955 by Tanatex Chemical Corp., Kearny, N. J. Claims use since Oct. 27, 1949.

**Cle-Mac**—This for detergents

for laundry machine use. Filed Jan. 14, 1955 by Charles S. McCarthy, doing business as All-Distributing Co., Chicago. Claims use since Dec. 28, 1954.

**Glim**—This for synthetic chemical liquid detergent. Filed Feb. 21, 1955 by B. T. Babbitt, Inc., Albany, N. Y. Claims use since Apr. 2, 1946.

**Beaty's**—This for window and bowl cleaners, hand cleaners, car washes, and white wall tire cleaners. Filed Dec. 29, 1954 by Wilfred W. Beatty, doing business as Beaty Products Co., Keokuk, Ia. Claims use since Sept. 26, 1941, on hand cleaners.

**Po-Lite**—This for silver polish. Filed Nov. 24, 1954 by Julia C. Mobley, doing business as Vio-Ra Chemical Laboratories, Atlanta, Ga. Claims use since Oct. 2, 1954.

**Arcadian**—This for pesticides. Filed Dec. 21, 1953 by Allied Chemical & Dye Corp., New York. Claims use since 1914.

**Hydro-Tomic**—This for anti-insect fumigation cones. Filed Jan. 17, 1955 by World Business Enterprises, Inc., Asheville, N. C. Claims use since Jan. 7, 1955.

**Super-Safe**—This for chemical paint and varnish remover. Filed June 24, 1953 by Demert & Dougherty, Inc., Chicago. Claims use since in or about January 1946.

**Topper**—This for mothproofing and cleaning compound for clothing and fabrics. Filed Apr. 22, 1954 by Tops Mothproofing, Inc., St. Louis. Claims use since April 9, 1954.

**Rootox**—This for chemical compositions for use in cleaning sewers. Filed July 6, 1954 by Reliance Chemicals Corp., Houston. Claims use since March 1953.

**Du-O-So**—This for hand cleaner. Filed July 21, 1954 by Kirco Products Co., Elizabeth, N. J. Claims use since June 1, 1954.

**Simplex**—This for laundry soaps. Filed Aug. 10, 1954 by H. Kohnstamm & Co., New York. Claims use since as early as Nov. 30, 1930.

**Co-mite**—This for detergent or chemical preparation used in cleaning of combs and brushes. Filed Nov. 8, 1954 by Wallace London, doing business as Clemco Products, Baltimore. Claims use since Sept. 17, 1954.

**Liquid Charm**—This for shampoo. Filed Nov. 30, 1954 by Prescription Products Co., New Hyde Park, N. Y. Claims use since April 13, 1954.

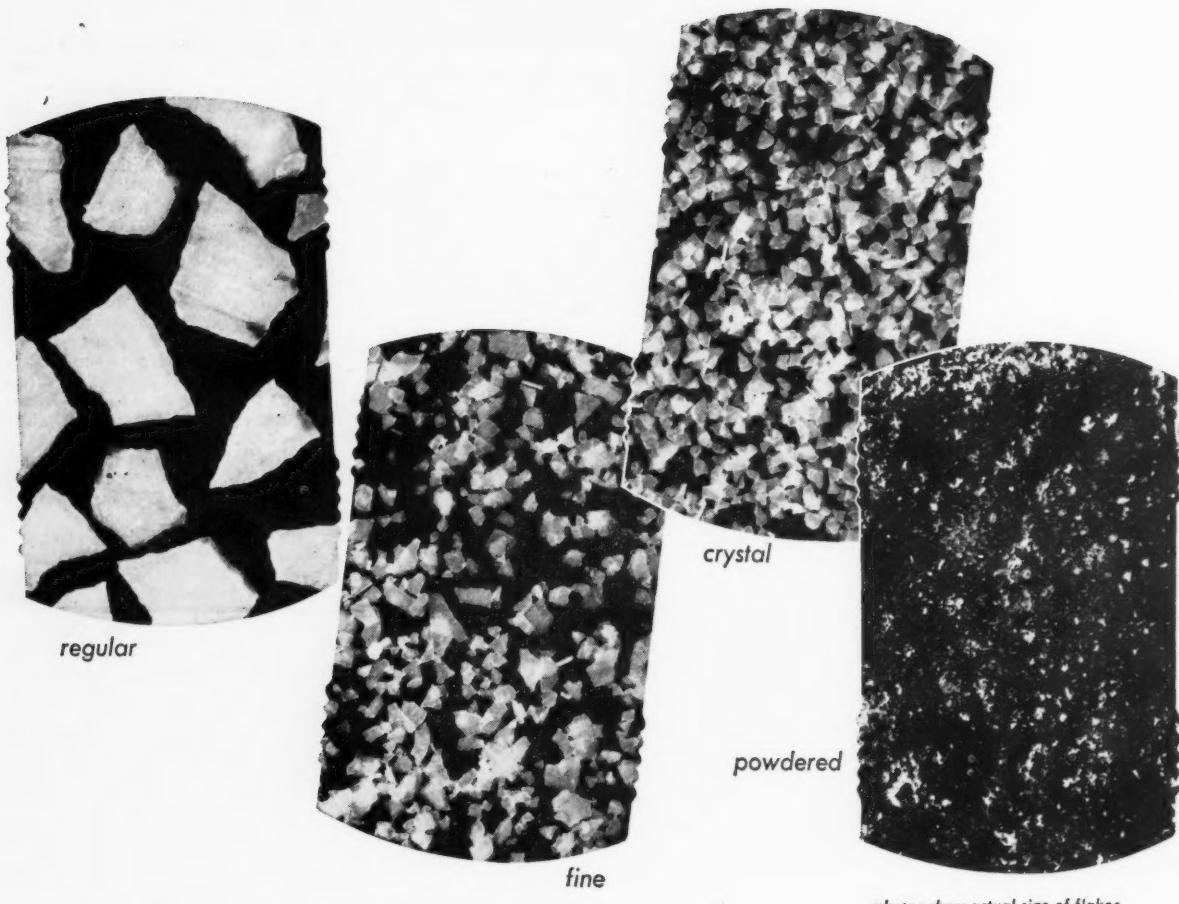
**Sweater Brite**—This for cold water soap. Filed Dec. 6, 1954 by Frank D. Healy, doing business as Berkeley Sweater Wash, Berkeley, Calif. Claims use since Nov. 19, 1954.

**Domestic**—This for liquid detergent for household use. Filed Dec. 20, 1954 by William F. Lancaster, doing business as Domestic Products Co., Farmington, Mich. Claims use since Aug. 23, 1945.

**Penetrant**—This for all-purpose detergent for general use. Filed Feb. 11, 1955 by Oakite Products, Inc., New York. Claims use since 1934.

**Multi-Metal**—This for alkaline cleaning composition primarily adapted for clearing metal parts. Filed Mar. 1, 1955 by Pennsylvania Salt Mfg. Co., Philadelphia. Claims use since Jan. 14, 1955.

(Turn to Page 197)



*photos show actual size of flakes*

## *Flake caustic soda: pick the size that's right for YOU*

Choosing the right size caustic soda flake will help keep your product at its uniform best. With these four Hooker flake sizes to choose from, you're sure of getting one or more sizes exactly right for you.

### **Which Size Should You Use?**

Drop us a note and we'll send you

samples and technical data to help you determine which of these Hooker flake sizes is your best buy.

If you use less than carload lots, ask your Hooker jobber to stock the sizes you need. (If you are not familiar with the Hooker jobber in your area, we'll be glad to send you his address.)



**Flakes arrive dry, stay dry** in these Hooker drums. Six lugs hold the lid securely on extra-large opening. Easy air-tight resealing protects unused caustic. You can also get Hooker flake caustic in reusable open-head drums at slight additional charge.

*1905—Half a Century of Chemicals*

*From the Salt of the Earth—1955*

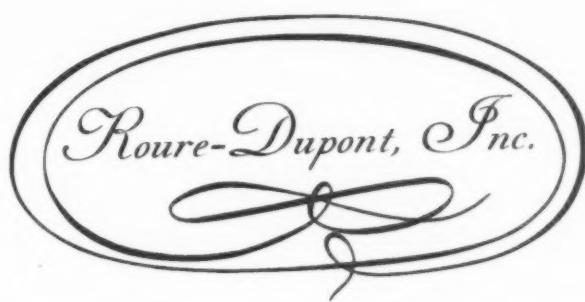
**HOOKER ELECTROCHEMICAL COMPANY**

Buffalo Avenue & Union Street, Niagara Falls, N. Y.

NIAGARA FALLS • TACOMA • MONTAGUE, MICH. • NEW YORK • CHICAGO • LOS ANGELES

4-1955

**HOOKER  
CHEMICALS**



PLEASE   
TURN THE PAGE

# "Jacarandol"

This new creation of

**ROURE-BERTRAND FILS AND JUSTIN DUPONT**  
is a modern interpretation of the Jacaranda flower—one of the  
loveliest ornaments of tropical forests. Slightly reminiscent  
of the Magnolia Flower of India, this fragrance has warm  
and powerful diffusion qualities attained and amplified by  
the addition of a new ingredient recently evolved by our  
French Research Staff—It remains stable indefinitely.



Jacarandol can be advantageously used in  
dominant quantities as an unusual top note  
and to modernize certain formulas. It can be  
substituted partially or totally for such bases  
as Lilac, Muguet and Jasmin.

We recommended Jacarandol also to the manufacturers of Toilet Soaps. As little as 1% in a cake of soap gives truly remarkable and lingering flowery results—

SAMPLES ON REQUEST

*Since 1820*

**ROURE-DUPONT, INC.**

*Sole Agents for the United States and Canada for*  
**ROURE-BERTRAND FILS et JUSTIN DUPONT, Paris, Grasse**

CHICAGO  
510 North Dearborn

HOLLYWOOD  
5517 Sunset Blvd.

*366 Madison Avenue, New York*

• VANDERBILT 6-5830 •

# News

## Forthmann Heads L.A. Soap

Andrew K. Forthmann, executive vice-president of both Los Angeles Soap Co. and White King



Andrew K. Forthmann

Soap Co., Los Angeles, has been chosen president and general manager of the two organizations, it was announced last month following a meeting of the board of directors. He succeeds H. Paul Grimm who has resigned as president, but who continues as chairman of the board of both firms.

Mr. Grimm was elected president and general manager of Los Angeles Soap Co. and its subsidiary White King Soap Co., which handles sales in states outside of California, in May, 1953. He succeeded E. M. Finehout as president. At the time Mr. Forthmann was named vice-president and assistant to the president of both companies.

Prior to joining the two soap companies Mr. Forthmann practiced law on a full-time basis with the Los Angeles law firm of Dockweiler & Dockweiler, with which he is still associated.

In January, 1954, Mr. Forthmann was elected western vice-president of the Association of American Soap and Glycerine Producers during its annual meeting. He was subsequently reelected to the post at the annual meeting of the soap as-

sociation earlier this year.

In addition, Mr. Forthmann is a member of the California Club and the Tuna Club. He is active in several civic and cultural groups in the Los Angeles area.

## McCabe Armour Coast Rep.

R. G. McCabe Co., Seattle, was named western Washington sales representative for the household soap department of Armour & Co., Chicago. The appointment was announced last month by J. A. Gray, national sales manager, who said that the trend to liquid detergents is growing.

## D. S. Smith to Williams

Douglas S. Smith has joined J. B. Williams Co., Glastonbury, Conn., as director of research and development, it was announced last month by Charles T. Lipscomb, Jr., president. Dr. Smith was previously associated with G. D. Searle & Co., Chicago, where he was engaged in pharmaceutical research.

## Harry Theobald, Sr.

Harry Theobald, Sr., 65, founder and president of Theobald Industries, Kearny, N. J., died Sept. 9 after a long illness. A lifetime resident of Kearny, he founded the chemical and detergent firm in 1914. Mr. Theobald is survived by his wife, Mrs. Elizabeth O'Brien Theobald; four sons; two daughters, and 15 grandchildren.

## "Protex" Soap in Savannah

"Protex" a white deodorant soap made by Manhattan Soap Co., New York, was introduced last month in the Savannah, Ga., market. Advertisements in the daily press are supplemented by a trial bar being delivered to every home in Savannah. Food stores and other retail outlets in the area are stocking the new soap.

## Francis A. Countway Dies

Francis A. Countway, 79, president of Lever Brothers, Co., New York, from 1913 to 1946, died



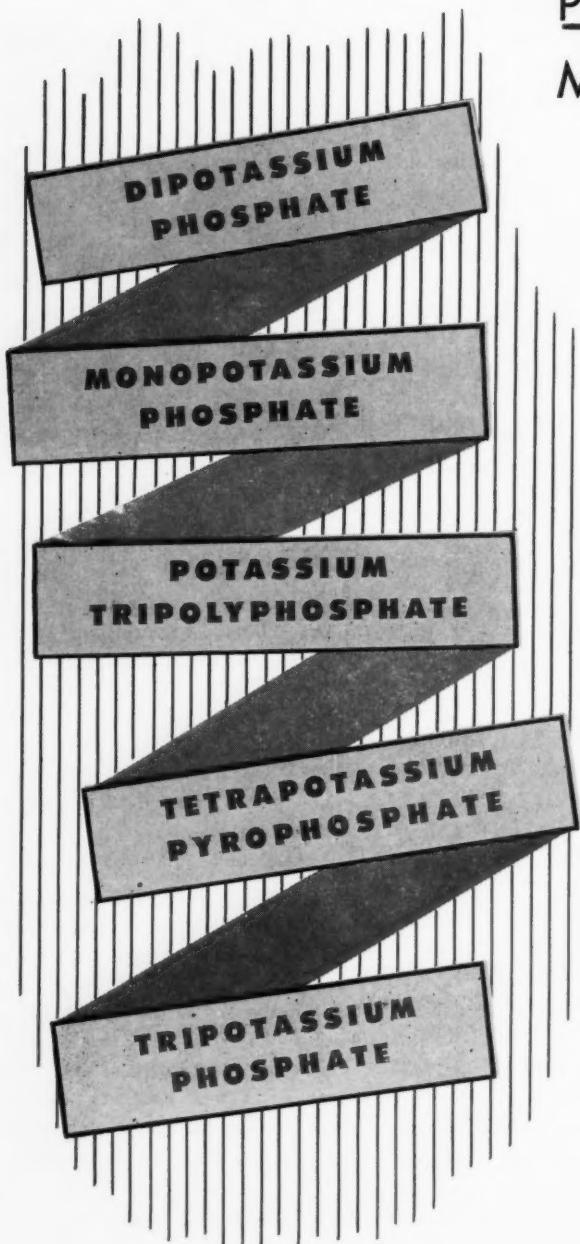
Francis A. Countway

Sept. 19. Mr. Countway became a salesman in 1898 for Curtis, Davis & Co., Cambridge, Mass., makers of "Welcome" soap. In the same year William Lever, later Lord Leverhulme, visited the small plant which the Lever interests had purchased. He was impressed by Mr. Countway's ability to answer questions about the business and three years later the latter was appointed auditor for the American firm of Lever Brothers, Ltd.

When the sales of "Welcome" soap began to decline in 1910 Mr. Countway offered a plan for recovering the lost ground. The plan proved successful and a few months later in 1912 he was appointed general manager and treasurer of Lever Brothers. A year later he became president, a post he retained until his retirement in 1946.

During his career Mr. Countway made sure that every new policy and product was tested on a small scale before being placed in full scale operation. This included advertising, marketing, and promotion. Today most major companies follow similar procedures.

# *Being Basic in Both*



Potash and Phosphorus  
Makes



your most dependable source of

## POTASSIUM PHOSPHATES

No other producer can serve you as widely or as well! Because — Westvaco is in the unique position of possessing its own dependable source of *all* the basic chemicals necessary for the manufacture of a highly-diversified line of potassium as well as sodium phosphates.

So remember . . . whatever your needs . . . you can minimize inventory, be sure of uniform quality and low delivered price when you specify WESTVACO phosphates.



Westvaco Mineral Products Division  
FOOD MACHINERY AND CHEMICAL CORPORATION

General Offices • 161 East 42nd Street, New York 17

CHICAGO, ILLINOIS • CINCINNATI, OHIO • HOUSTON, TEXAS • NEWARK, CALIFORNIA

In 1938 Mr. Countway was the highest-paid industrial leader in the United States. He received \$469,713 in salary and bonuses, of which he retained \$70,000.

When he retired in July 1, 1946 he was succeeded as president by Charles Luckman, president of the company's Pepsodent division. Mr. Luckman had previously been president of Pepsodent Co. until its purchase by Lever Brothers Co. in 1944.

#### Join Pacific Coast Borax

The appointment of two additional sales representatives in the United States was announced recently by Pacific Coast Borax Co., Los Angeles. F. T. Winters, manager of the company's agricultural sales division announced that Joseph S. Gowland had been assigned to the company's Chicago office and Elmer H. Schmierer has been appointed to the division's district office at Kansas City, Mo. He is a graduate of Colorado School of Mines. Mr. Gowland, a graduate of Michigan State College, where he received a B.S. and masters degrees, handles weed control and other products, covering a portion of Illinois, Indiana and lower Michigan.

#### Colgate Research Center

Plans to erect new central research laboratories in the near future were announced recently by Colgate-Palmolive Co., Jersey City, N. J. The firm has obtained an option to purchase a tract of 35 acres of land in Bloomfield, N. J. The property is now used as a golf course and construction of the proposed research center would require a change in the present zoning.

The new laboratory will house between 350 and 400 people and will have over 200,000 square feet of floor space devoted to research activities. The new Colgate research center will bring together most of the basic and applied research facilities of the company, with its development activities and newly completed pilot plant remaining at the plant in Jersey City.

## Ten European Soapers Tour U. S. Plants

TEN executives of leading European soap companies are currently on a five weeks' visit to the United States to study problems of distribution. The trip, arranged by the U.S. Department of Commerce, Bureau of Foreign Commerce, under the auspices of the International Cooperation Administration, was conducted by Samuel C. Stovall. He is project manager of the International Trade Development Division of the U.S. Department of Commerce.

The purpose of the trip, as announced by the sponsoring organization, is the study and observation of the free enterprise and free competitive system of distribution in the U.S. in order to aid European countries in the solution of their marketing and distribution problems.

During the trip, which ran from Sept. 13 to Oct. 20, the European soap men visited plants in the East and Middle West and discussed their problems with representatives of various trade associations and the trade press.

The visitors included:

Thomas J. Bouterse, assistant manager, Kortman & Schulte, N.V., Rotterdam, Netherlands; Raymond L. Depovere, inspector principal, Ministry of Economic Affairs, Brussels, Belgium; Joseph H. Heymans, group secretary, and an engineer with Savonnerie Heymans, S.A., Brussels; Einar V. N. S.

Poulsen, managing director, Worning & Peterson, Vejle, Denmark; Andre A. Pruvost, vice-president and director, Breton & Steinbach, S.A., Vitry sur Seine, France; Dr. Helmut E. Flammer, manager, Flammer Seifenwerke GmbH, Heilbronn a.N., Germany, and vice-president of the German Soap Manufacturers Assn.; Gunnar J. Fridriksson, manager, Sapugerdin FRIGG, Reykjavik, Iceland; Einar Knut Dieserud, sales manager, Persil-fabrikken, A.S., Oslo, Norway; Fernando F. M. Cabral, assistant manager, Companhia Fabril, Lisbon, Portugal, and Fernando V. R. Faria, sales manager, Sociedade Nacional de Sabees, Lda., Lisbon.

During the first week of the trip the visitors were briefed on marketing conditions in the U.S. by Charles T. Lipscomb, Jr., president of J. B. Williams Co., New York, and Frank J. Reilly, editor of *Soap & Chemical Specialties*. U.S. trade association activities were described by H. W. Hamilton, secretary of the Chemical Specialties Manufacturers Assn., and Roy W. Peet, manager of the Association of American Soap & Glycerine Producers. The group also visited the plant of John T. Stanley Co., New York, and was taken on a tour of Lever House, headquarters of Lever Brothers Co., New York. A highlight of the trip was a day spent in the field with sales representatives of Formula Floor Products Co., Newark, N.J., sanitary supply firm. This was followed by a visit to the company's sales promotion

European soap makers visiting U. S. look on as Harold Lefcourt of Formula Floor Products Co., Newark, N. J., demonstrates use of floor sanding machine.





# ROSANOL

(AN ACETAL)

Typical Specifications:

<b>PHYSICAL APPEARANCE:</b>	Colorless Liquid; APHA 10 Max.
<b>ODOR TYPE:</b>	Floral, Rose.
<b>SOLUBILITY:</b>	30 parts soluble in 100 parts of 70% Ethyl Alcohol.
<b>STABILITY:</b>	Very stable in neutral and alkaline media.
<b>REFRACTIVE INDEX (<math>n \frac{20}{D}</math>) :</b>	1.5210
<b>SPECIFIC GRAVITY (<math>\frac{20}{20}</math>) :</b>	1.0880
<b>QUALITY:</b>	Specifications carefully checked in our modern control laboratories.
<b>SUGGESTED USES:</b>	Because of its great stability this product is valuable in soap and cosmetic odors. Its fine aroma permits its use in the highest priced perfumes.

*Note these additional VERONA specialties:*

CYCLAMAL · RESEDALIA · FLORANOL  
VERONOL · AMBRE SUPERESSENCE E-1273

Sole representatives in the United States for: J. & E. SOZIO, GRASSE, FRANCE  
RESINOIDES · NATURAL ABSOLUTES · ESSENTIAL OILS

*Write for our complete catalogue.*

**PRODUCTS BUILD SALES FOR** *Your* **PRODUCTS**

Aromatics Division

VERONA CHEMICAL COMPANY

Plant and Main Office: 26 Verona Avenue, Newark, N. J.  
1210 Rosedale Avenue, Chicago, Ill.

department, attendance at a sales meeting and a buffet supper.

Preceding a trip to Washington, D.C., the group toured the plant of Colgate Palmolive Co., Jersey City, N.J., and was addressed by Ralph Hart, newly elected president of Colgate Palmolive International Co., and vice-president of the parent company.

Following a visit to the plant of Eavenson & Sons, Camden, N.J., where they conferred with V. Levinson, manager, the group moved to Chicago. There they inspected the plants of U.S. Sanitary Specialties Corp.; Stepan Chemical Co. and Armour and Co. In Minneapolis, Archer Daniels Midland Co. was host to the group, which heard from T. L. Daniels, president, and Gene Fowler, advertising manager.

The remainder of the itinerary called for visits to Stanley Home Products, Inc., Easthampton, Mass., John H. Breck, Inc., Springfield, Mass., and Potter Drug and Chemical Corp., Malden, Mass.

— ★ —

#### **Stevenson with Givaudan**

A celebration honoring R. M. Stevenson for 50 years in the chemical industry was reported in the August issue of SOAP on page 113. The news story left some doubt as to Mr. Stevenson's continued association with Givaudan-Delawanna, Inc., New York. He continues as a member of Givaudan's board of directors and is engaged in sales work for the firm in the midwest area.

— ★ —

#### **Snell Adds to Staff**

Foster D. Snell, Inc., New York, announced recently the following additions to its staff: Walter A. Bilz, formerly with Lorr Laboratories, Paterson, N. J., has joined Snell as junior chemist and Salvatore J. Graziano as chemist, both in the product development department. Richard J. Davidson has joined the firm as a chemist in Snell's product evaluation department and Adrienne Newhouse in the food department.

#### **New "Oxydol" Bleach**

Denver and some other areas in Colorado and Wyoming have been selected for the introduction in the Rocky Mountain area of "Oxydol Bleach" it was announced recently by E. P. Snortum, Denver district manager of Procter & Gamble Co., Cincinnati.

— ★ —

#### **Expands Sales Staff**

Magnus Chemical Co., Garwood, N. J., announced last month that it is building up regional sales forces by expanding its sales development staff as well as its sales

force. Among the six operating units affected are cleaning materials, cleaning equipment, and water treatment compounds.

— ★ —

#### **New Detergents Firm**

Go Detergents Corp., Brooklyn, N. Y., has been granted recently charter of incorporation listing capital stock of 400 shares, no par value. Directors of the new firm are: Ralph Kagel, Murray Kagel, and Edith Reback, 66 Court Street, Brooklyn 1. Papers were filed by Blackstone Stationers, Inc., 140 Nassau Street, New York.



## **Custom OXYALKYLATION ESTERIFICATION**

PRODUCTS MANUFACTURED TO YOUR SPECIFICATIONS IN COMMERCIAL QUANTITIES

**OXYALKYLATIONS**—reactions involving a liable hydrogen atom and ethylene oxide, propylene oxide or mixtures of oxides.

**ESTERIFICATIONS**—reactions involving a fatty acid and an alcohol, amine or similar compound.

■ Aquaness Custom Service places at your disposal modern laboratory, pilot plant and full-scale plant facilities with unexcelled quality control. You enjoy the advantages of **complete** facilities without the expense of installing equipment or developing processes. Aquaness will either furnish all the materials or process your products on a toll basis.

*Let us show you how Aquaness  
Custom Service can meet your requirements.  
Your inquiry involves no obligation, of course.*

**Aquaness**  
*Corporation*

2005 QUITMAN STREET • HOUSTON 26, TEXAS



# Formulators look to CARBOSE for increased detergency

## Wyandotte's CARBOSE increases whiteness retention and carbon-soil removal

CARBOSE,\* Wyandotte's special form of CMC, has increased the cleaning efficiency of soaps and synthetic detergents almost as spectacularly as the invention of the modern washer has revolutionized the washing process over old hand methods. It is a detergency promoter that combines exceptional economy with outstanding efficiency.

In cases where CARBOSE replaced 5% of the soap or synthetic detergent in various formulations, carbon-soil removal and whiteness retention increased as much as 200% over the original product! CARBOSE helps reduce skin irritation. Its fine particle size insures rapid and maximum solubility.

We would be pleased to discuss CARBOSE benefits at your convenience and to work with you toward giving your products distinct advantages. If you'd like samples and literature on CARBOSE, or our other outstanding products for use in soap, detergent or chemical-specialty formulations - call your Wyandotte representative, today, or write us direct. Give as much detail as possible on your product, process, or purpose. *Wyandotte Chemicals Corporation, Wyandotte, Mich. Offices in principal cities.*

\*REG. U.S. PAT. OFF.



## Wyandotte CHEMICALS

BLEACHING AGENTS • CARBOXYMETHYLCELLULOSE • CAUSTIC SODA • CALCIUM CARBONATE • CALCIUM CHLORIDE • CHLORINE • DETERGENTS (NONIONIC AND ANIONIC) • EMULSIFYING AGENTS • SODA ASH • SODIUM BICARBONATE • SOLVENTS (CHLORINATED) • WATER SOFTENERS • WETTING AGENTS

### Stokes Heads DCAT

Sydney N. Stokes, assistant to the executive vice-president, Van Ameringen - Haebler, Inc., New York, has been elected 59th chairman of the Drug, Chemical & Allied Trades Section of the New York Board of Trade at DCAT's 65th annual meeting held at Pocono Manor, Pa., Sept. 22-24. Prior to joining the essential oil house, Mr. Stokes was associated with Merck & Co., for more than 20 years.

Other officers elected by DCAT include J. David Hayden, eastern sales manager, R. P. Scherer Corp., vice chairman; W. Boyd O'Connor, president of Ayerst Laboratories Division, treasurer: James G. Flanagan, vice-president, S. B. Penick & Co., counsel; and Helen L. Booth, secretary.

The retiring chairman, Claude A. Hanford, president of Pharmaco, Inc., was elected section representative to the board of directors of the New York Board of Trade.

Elected as members of the executive committee of the section (excluding officers) were: Frank F. Black, Chas. Pfizer & Co.; Francis C. Brown, Schering Corp.; Ralph A. Clark, J. T. Baker Chemical Co.; Griffin Crafts, J. W. Wilson Glass Co.; Harold F. Cummings, Vitamerican Oil Corp.; James Day, Dow Chemical Co.; Dr. Charles E. Dutches, medical consultant; W. T. Halsted, Thos. Leeming & Co.; William W. Huisking, Chas. L. Huisking & Co.; Louis E. Kalty, Progressive Drug Co.; George H. McGlynn, Magnus, Mabee & Reynard, Inc.; Wm. J. Schieffelin, III, Schieffelin & Co.; F. M. Schwemmer, Ruthrauff & Ryan, Inc.; Fred G. Singer,

Sydney N. Stokes



E. I. du Pont de Nemours & Co.; J. A. Singmaster, Jr., Monsanto Chemical Co.; Stephen F. Urban, E. R. Squibb & Sons, Division of Olin Mathieson Chemical Corp.

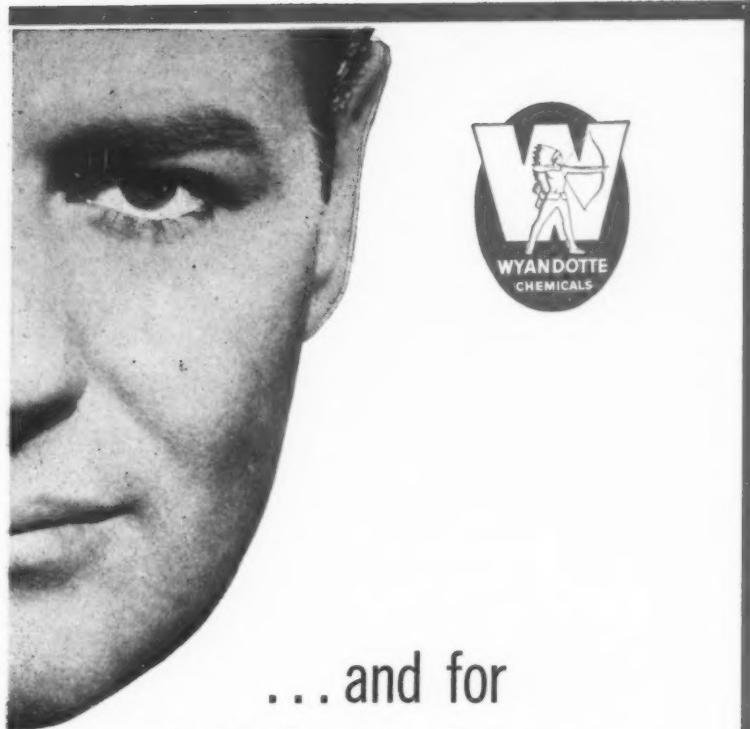
### Charles Gulick Dies

Charles P. Gulick, 70, honorary chairman of the board of Nopco Chemical Co., Harrison, N.J., died Sept. 4 at Dover General Hospital after a brief illness. He served as president of Nopco from 1932 to 1938, chairman of the board from 1938 to 1940, and combined both positions from 1940 to 1949. He was again chairman from 1949 to 1954, and was then named honorary chairman. Mr. Gulick was one of the founders of Nopco in 1907, when the firm operated out of a rented basement in Newark, N.J., and its line consisted of a single product. Mr. Gulick is survived by his widow, three sons and seven grandchildren.

### Morone Joins D & O

Pasquale J. Morone, since mid-1954 a member of the sales staff for aromatic chemicals and specialties of Rhodia, Inc., New York, recently joined Dodge & Olcott, Inc., New York. He will work out of the New York office of D&O at 180 Varick St. Before going with Rhodia, Mr. Marone had been associated with Magnus, Mabee & Reynard, Inc., New York. He is a graduate of Rutgers University, College of Pharmacy, and has been in the perfuming materials industry since 1949.

P. J. Morone



## ... and for technical assistance

Exceptional products like CARBOSE\* are the result of extensive Wyandotte research and field testing . . . the result of Wyandotte technical service in action. Applying CARBOSE to customers' needs has led to better soap and detergent formulations, as well as to dramatic improvements in other fields. Frequently, customers' problems have been the spark to entirely new products! Our service representatives and research scientists are one technical-service team — eager to serve you, ready to work with you on your formulating problems. If we can be of assistance now, write: *Wyandotte Chemicals Corporation, Wyandotte, Michigan. Offices in principal cities.*

\*REG. U.S. PAT. OFF.

To test the efficiency of CARBOSE formulations, nucleonics technicians "tag" soils with radioactive isotopes. Fabrics, dirtied with this soil, are washed, then examined. A Geiger counter measures the remaining soil (otherwise undetectable), assuring that CARBOSE formulations provide maximum carbon-soil removal and whiteness retention.



# Wyandotte CHEMICALS

HEADQUARTERS FOR ALKALIES



## FOR THAT CLEAN-AS-A-WHISTLE LOOK

Giving a train a shower and shine is an everyday affair for railroads. The trick is to do the job with minimum effort and get the train back to work promptly.

That's where the Atlantic Ultrawets come in... the Ultrawets provide outstanding cleansing properties. Gritty, greasy particles of dirt rinse off easily, leave a streak-free finish that dries shining-clean.

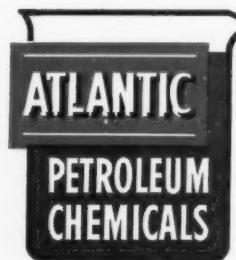
These superior synthetic detergents are one of a group of Atlantic petrochemicals (so you see a miniature oil refinery in the picture).

Naturally, these unusually able Ultrawets are also used in formulations for many other operations: from shampoos for milady to wetting agents in textile mills.

The Ultrawets are one part of Atlantic's ever-growing family of petrochemicals, for which industry is constantly finding new and profitable uses... in new products... in cost-saving manufacturing advantages

...in adding new sales-pluses to well-established products. Atlantic sales engineers are always ready to help your staff get the most from your use of Atlantic petrochemicals.

For full information on Atlantic petrochemicals and services, write to The Atlantic Refining Co., Dept. E-10, 260 South Broad St., Philadelphia 1, Pa.



Philadelphia, Providence, Charlotte,  
Chicago

In the West: L. H. Butcher Co.

In Canada: Naugatuck Chemicals  
Division of Dominion Rubber  
Company, Ltd.

In Europe: Atlantic Chemicals SAB,  
Antwerp, Belgium

In South America:  
Atlantic Refining Co. of Brazil,  
Rio de Janeiro

### **Brillo Buys Williams**

Acquisition of Williams Co., London, O., by Brillo Manufacturing Co., Brooklyn, N. Y., was announced recently by Milton B. Loeb, Brillo president. The Williams organization will continue to manufacture industrial and household steel wool at its present plant and with the same sales and executive staff under the direction of Richard P. Hood, as vice-president and general manager. The transaction coincides with the retirement of William Robbins, former chairman of Williams Co. and one of its founders in 1920.

### **New Oronite Executives**

Election of Allen W. Horton, Jr., as secretary-treasurer and Walter C. Kaul as comptroller of Oronite Chemical Co., San Francisco, has been announced by T. G. Hughes, president. Both appointments became effective October 1, and are part of administrative changes following the recent death of B. W. Anthony, former secretary-treasurer.

Prior to his recent appointment Mr. Horton was chief analyst in the comptroller's department of Standard Oil Co., of California.

### **Godfrey Succeeds Tracy**

Warren R. Godfrey, for the past 20 years manager of the Philadelphia office of Fritzche Brothers, Inc., New York, has been transferred to the home office to succeed

Warren R. Godfrey



Mr. Kaul, former assistant treasurer at Oronite, transferred there in 1945 from Standard of California.

### **Lever Sweepstakes**

The third "Lucky Lever Sweepstakes," backed by heavy consumer advertising and promotion, began Oct. 10, it was announced recently by Lever Brothers Co., New York. The firm is mailing out free entry blanks for \$100,000 in prizes and coupons redeemable on its sponsoring products. A total of 3,031 prizes will be awarded by blindfold drawings. First prize is \$25,000 in cash.

### **Ferguson on MCA Board**

Harry S. Ferguson, vice-president, Allied Chemical & Dye Corp., New York, was elected last month to the board of directors of the Manufacturing Chemists' Association. He had served from 1953 to 1955 as chairman of the association's public relations advisory committee.

With Allied since 1933 Mr. Ferguson became head of the company's legal division in 1934, a vice-president in 1951, and a member of the executive committee in 1953.

Kenneth W. Tracy as manager of perfume sales, it was announced last month. Mr. Tracy, associated with Fritzche since 1941, will retire from active business Dec. 31, 1955. He has been active in the

### **S. N. Cummings Dies**

Samuel N. Cummings, 61, president of Pylam Products Co., New York, supplier of colors to the soap, detergent, and chemical specialties industries, died Sept. 30. In World War II Colonel Cummings was commanding officer of the New York Chemical Procurement Office and helped to develop the napalm production program. In the First World War he served as an enlisted man in the infantry, was gassed in the Vesle River campaign and later was connected with the Army school for training in anti-gas warfare. He won the Legion of Merit for his services in World War II and held several other military medals.

Colonel Cummings is survived by his widow, two daughters and two grandchildren.

### **New Plough Executives**

Plough Inc., Memphis, Tenn., recently announced three changes in executive appointments. R. B. Macon Smith has been elected a vice-president and Dan C. Hallford, former director of personnel, becomes assistant vice-president. John Pitts has been advanced to Mr. Hallford's former post.

perfume and pharmaceutical trades for 40 years.

Ernest A. Lawson will continue as manager of Fritzche's industrial odorant division, in which field he has spent the past 18 years.

Kenneth W. Tracy

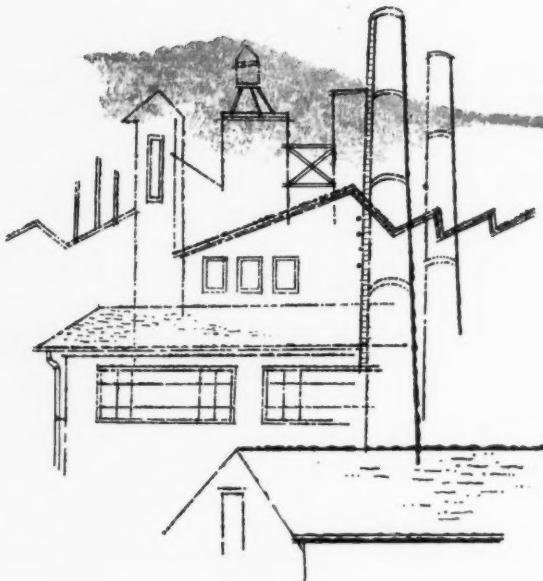


Ernest A. Lawson





## USE SOAP IN YOUR PRODUCTS?



### IVORY BEADS

A white, free-flowing, spray-dried soap of unexcelled purity and mildness. An excellent detergent and sudsing agent—the whitest, brightest, highest quality soap for industrial and converter use on the market today.

Because of its granular form, and small, uniform particle size, Ivory Beads goes into solution exceptionally fast, assuring better performance in the finished product. Stock solutions are easier to prepare . . . there's less tendency to ball or matt than in the case of powdered soaps.

### RECOMMENDED USES

Because of their granular structure, both Ivory Beads and Amber Granules blend readily and intimately with other converting materials. You can expect unusually efficient performance and safety from them in compounding a wide variety of industrial cleaners where the cleaning element comes in contact with the skin.

Ivory Beads available in 50-lb. multi-wall paper bags. Amber Granules available in 75-lb. multi-wall paper bags.

### THEN INVESTIGATE NEW, IMPROVED IVORY BEADS AND AMBER GRANULES

If you're now using flaked or powdered soaps in your converting operations, you'll be interested in two new products recently developed by our research laboratories.

Ivory Beads and Amber Granules have all the performance advantages of Ivory Chips and Amber Flakes, with plus values in terms both of better physical appearance and mixing characteristics. Check them:

### AMBER GRANULES

A blown, 88% active, 42° titer soap. Because of its granular form, Amber Granules has many of the same desirable characteristics as Ivory Beads—rapid solubility, attractive appearance, ease of blending.

Recommended for the preparation of gel type products such as paste soaps and silver polishes because of its excellent gelling properties. Also for compounding powdered hand soaps, burnishing compounds, laundry detergents, floor cleaners, etc.

For further information about these new products drop a postcard to

**PROCTER & GAMBLE**  
Bulk Soap Sales Department, P. O. Box 599,  
Cincinnati 1, Ohio

America's largest manufacturers of soaps and synthetic detergents.

*SOAP and CHEMICAL SPECIALTIES*

### **Emery Assigns Bogner**

Emery Industries, Inc., Cincinnati, has assigned Paul Bogner to its Chicago district sales office, it



Paul Bogner

was announced in September by R. F. Brown, chemicals sales manager. In his new position Mr. Bogner handles sales of all Emery chemical products in an area covering Minnesota, Wisconsin, the northern half of Iowa, northern Illinois and part of metropolitan Chicago. His previous associations include Charles Pfizer & Co., Brooklyn, N. Y., and Inland Wire Co.

— ★ —

### **Bon Ami Earnings Off**

Bon Ami Co., New York, and subsidiaries reported for the six months ended June 30, 1955, class A share earnings of 61 cents compared with \$1.13 for the comparable period in 1954. Net income before taxes was \$92,031, after taxes \$55,199 in 1955 compared with \$169,061 and \$101,403 in 1954. There were 89,583 class A and 200,000 class B shares in both six months' periods.

— ★ —

### **Speak on CMRA Panels**

A case history of the marketing of a liquid dishwashing detergent for household use was one of the highlights of a panel presented during a meeting of the Chemical Market Research Association, held at The Cavalier Hotel, Virginia Beach, Va., Sept. 21-23. Harold G. Shelton, sales manager, chemical division, General Aniline and Film

Corp., New York, presented a paper, "Why and How One Chemical Company Entered the Consumer Market with a Liquid Dishwashing Detergent." He spoke on a panel, "Consumer Products for Chemical Companies — Why and How."

Donald C. McSorley, advertising manager, Kinetic Chemicals Division, E. I. du Pont de Nemours & Co., Wilmington, Del., in another panel on "Market Researching Consumer Products," discussed "Studying Consumer Opinion and Selling Practice for Aerosol Products." Another panel member was Dr. Harry D. Wolfe, market research director of Colgate Palmolive Co., Jersey City, N. J., who discussed "Testing New Products."

— ★ —

### **C. F. Hayward Dies**

Clyde F. Hayward, 34, assistant research director for technical services of Lever Brothers Co., New York, died Sept. 10 of poliomyelitis in Bergen County General Hospital, Paramus, N.J. He had been appointed to the post of assistant research director in July. Mr. Hayward joined Lever Brothers Co. in 1946 and had been advanced to a series of executive positions. He was a graduate of Massachusetts Institute of Technology and had served as a major in the Army Chemical Corps in World War II.

Survivors include his widow, Shirley; a daughter, Rebecca, and his mother, Mrs. Mabel Hayward.

C. F. Hayward



### **Aromatic Names Kaplan**

Aromatic Products, Inc., New York, has named Sol Kaplan of L. E. Offutt Co., Memphis, as



Sol Kaplan

sales representative for the state of Tennessee, it was announced last month by M. J. Lemmermeyer, president of Aromatic Products. Mr. Kaplan was previously associated with Keystone Laboratories, Inc., also of Memphis.

In his new capacity he will work very closely with Aromatic Products' service laboratory in New York.

### **P&G Overseas Appointment**

R. H. Greenly, a director of Thomas Hedley & Co., Newcastle, England, has been appointed managing director of Procter & Gamble de Venezuela, an associate company, it was announced last month. The appointment becomes effective Jan. 1, 1956. Mr. Greenly joined Hedley in 1934 and was appointed director with responsibility for manufacture in 1948.

### **Alcolac Offers Lauryl**

Lauryl alcohol is currently being offered in commercial quantities by American Alcolac Corp., Baltimore, Md. "Siponol L2" is a narrow cut containing 95 percent  $C_{12}$ - $C_{14}$  alcohols. A broader cut is also available under the trade name "Siponol L5." Samples and data sheets are available from Alcolac's development department.

# For Her Choice in Shampoo

**CLEAR LIQUID...**

**SOLID CREAM...**

**CREAM LOTION...**

You can give her the finest...  
made with a Du Pont detergent

#### **UNIFORM RESULTS in clear-liquid shampoo with DUPONOL® EP**

... the same pale golden shampoo, batch after batch! And "Duponol" EP won't fade or discolor, has a lower cloud point. Greater response means you use less thickener, yet retain excellent foaming and cleansing action . . . savings for you!

#### **STABLE COLOR, in solid-cream shampoo with DUPONOL® WA PASTE**

... the whitest paste shampoos show good performance under heat, light and aging. Cleansing power is easily controlled, while foaming action remains excellent . . . and less thickener gives you the desired viscosity. "Duponol" WA Paste means economy!

**CONTROLLED CLEANSING in cream-lotion shampoo with DUPONOL® WAQ . . .** you get excellent foaming, yet gentle, non-drying action in your shampoo. Designed for whitest shampoos, "Duponol" WAQ will stay white through heat, light and aging. Less thickener is needed for the uniform body and viscosity you want, too!

Yes, whichever type you make, Du Pont's technical staff will be glad to help you with any formulating problems. You can get an informative bulletin which includes dozens of formulas. Write on company letterhead to E. I. du Pont de Nemours & Co. (Inc.), Dyes and Chemicals Division, Wilmington, 98, Delaware.



BETTER THINGS FOR BETTER LIVING  
... THROUGH CHEMISTRY

**DU PONT** *Duponol*<sup>\*</sup>  
DETERGENT

\*Du Pont trade-mark for surface-active agents

### Rhodia Names Mackie

W. C. Mackie has joined Rhodia, Inc., New York, as technical sales representative on the



W. C. Mackie

Pacific Coast, it was announced last month. He has established temporary headquarters in Pasadena, Calif. Mr. Mackie's previous associations in the industry include Polak & Schwarz, Inc., New York, with which firm he had been associated since 1949, and Albert Albek, Inc., Culver City, Calif.

In his new position he supervises both sales and engineering in the fields of industrial odor control and odor abatement and handles requirements in the specialty, cosmetic, and related markets.

### Ask Shampoo Rate Aid

Proposed action by the Shampoo Manufacturers Freight Group to press for lower shampoo freight rate classification before the Interstate Commerce Commission depends on the outcome of the group's current campaign for funds, according to a recent announcement of Edward J. Breck, John H. Breck, Inc., Springfield, Mass., chairman of the group. Mr. Breck made the announcement in an address to the board of the National Beauty and Barber Manufacturers' Association, which, with the Toilet Goods Association sponsors the shampoo group. Shampoo shippers are asked to contribute to the Shampoo Group's litigation fund with checks made payable to: Shampoo Manufacturers

Freight Group, Harold F. Bertrand, treasurer, 41 Florence Avenue, Hempstead, N. Y.

### Coneybear to Speak

S. F. Coneybear, director of research, Colgate-Palmolive Co., Jersey City, N. J., will speak at the

### New Old Dutch Package

"Old Dutch Cleanser" said to be the oldest cleanser in powdered form, now comes with a new label, modern additions to its formula, and packaged in two different sizes, it was announced last month by Purex Corp., South Gate, Calif. Purex bought "Old Dutch" from Cudahy Packing Co., Chicago, in May 1955. The product retains as an essential ingredient activated "Seismotite" volcanic ash, used in the cleanser since it was first introduced 50 years ago. The formula now incorporates a foaming agent and a perborate bleach for improved and more effortless cleansing. Another improvement is speedier rinsing.

"Old Dutch Cleanser" is now available in two sizes: a regular 14-ounce and a new giant 22-ounce size. In introducing the packages Purex offers multiple units, with a can band holding three regular cans and another one holding two of the giant size cans. A photograph of the new label appears on the cover of this month's issue of *SOAP*.

### New Dow Aromatic

Dow Chemical Co., Midland, Mich., recently introduced a new aromatic chemical of violet-woody odor. "Dorisyl" is said to be stable over a wide pH range and is suggested for use in soaps, detergents, specialty cosmetics, and related products. Dow says the compound is in a price range practical for the soap maker. Samples and further information are supplied on written request.

### Plastic Closure Folder

A new four-color brochure describing the stock and custom plastic closures as well as services and facilities available from Scott Plastics, Inc., 410 Windsor Street, Hartford, Conn., was announced last month. Copies are available on request.



S. F. Coneybear

annual meeting of the Association of Consulting Chemists and Chemical Engineers, to be held Tuesday, Oct. 25, at the Belmont Plaza Hotel, New York. Mr. Coneybear's presentation will be part of a symposium on "How to Buy and Sell Consulting Services." Moderator will be Richard L. Moore, director of public relations, Foster D. Snell, Inc., New York. The symposium will be preceded by a cocktail hour and banquet. Reservations, \$10.00 per person, should be addressed to Miss A. B. Powers at the association, 50 East 41st Street, New York 17.

### FMC Names Dr. Reilly

The appointment of Dr. Desmond M. C. Reilly as sales promotion and publicity manager of the chemical divisions of Food Machinery and Chemical Corp., New York, was announced recently. Dr. Reilly has been technical writer with the chemical divisions of Food Machinery and Chemical Corp., for the past two years. He received his Ph.D. from the National University of Ireland in January, 1945. He also has worked in chemical research at Midwest Research Institute, Kansas City and has been on the faculty of the University of Notre Dame.



## Take the surgeon's word for it...

*Your best protection against  
infectious bacteria is a soap  
or detergent containing... G-11*

(Brand of Hexachlorophene)

Today virtually *all* surgeons and hospitals insist on soaps and cleansers containing G-11!

More and more meat and food producers are specifying soaps and detergents with G-11 for use throughout their plants.

Millions of consumers in home and industry are *demanding* the extra protection and health benefits provided by products containing G-11.

Here is convincing proof that G-11 offers

efficient, safe, effective protection against infectious bacteria... helps you and your personnel maintain a cleaner, healthier establishment.

Contact your supplier now for liquid, powder and bar soaps containing G-11.

Those who depend on you for guidance will look to you for more information on G-11. We will gladly supply you with more detailed data.

**SINDAR<sup>®</sup>**  
*Corporation*

330 West 42nd Street

• New York 36, N. Y.

**Branches:** Philadelphia • Boston • Cincinnati • Detroit • Chicago • Seattle • Los Angeles • Toronto

### **Soap Powder Spec.**

Interim Federal Specification P-S-00628b covering soap-borax powders and dated August 29, 1955, was announced recently by the Federal Supply Service of the General Services Administration. The amendment (1) reads as follows:

Page 3, paragraph 3.4.1: Delete and substitute the following:

"3.4.1 The borax in that portion of the product passing through the No. 30 U. S. sieve and retained on the No. 40 U. S. sieve shall not exceed 1.0 gram borax in 100 grams of total product as received. The borax in that portion of the product passing through a No. 40 U. S. sieve and retained on a No. 60 U. S. sieve shall not exceed 4.0 grams borax in 100 grams of total product as received (see 4.4.2.)"

Page 8, paragraph 4.4.9: Delete and substitute the following:

#### *"4.4.9 Performance in dispenser."*

—Fill a soap dispenser conforming to a type III, class A dispenser in Federal Specification FF-D-396 with twelve fluid ounces (21.8 cubic inches) of sample. This quantity shall be withdrawn in not less than 800 strokes nor more than 2,600 strokes of the feed valve. The soap shall have no tendency to clog or render inoperative any vital operating parts of the dispenser."

Page 6, paragraph 4.4.3.3.: Delete and substitute the following:

"4.4.3.3 Calculation.—mg lanolin (from calibration curve) = % Lanolin in soap."

### **Polaks on European Trip**

Jac Polak, chairman of the board, and Ernest Polak, research director, Polak's Frutal Works, Middletown, N. Y., are in Europe it was announced recently. They are visiting the company's plants in Holland, France and England.

### **P & G Safety Record**

Procter & Gamble Co., Cincinnati, now holds a four-fold world safety record, it was announced Sept. 25, when Buckeye Cotton Oil Co., P & G's Memphis, Tenn., subsidiary set a new record in the pulp industry. The pulp mill's 653 employees have worked since Aug. 1953 without a single accident serious enough to cause loss of time. Other safety record holders in the P & G organization are the Chicago soap factory, Buckeye's Hollywood mill in Memphis, and Procter & Gamble Defense Corp's shell-loading plant, an ordnance installation

operated for the government at Milan, Tenn. During the first eight months of this year 30 out of 42 P & G manufacturing units have had no lost-time accidents.

— ★ —

### **Emery Products Folder**

Emery Industries, Inc., Cincinnati, recently issued a four-page bulletin containing revised specifications for the firm's entire line of products. Stearic and oleic acids, hydrogenated acids and glycerides, animal and vegetable fatty acids, special fatty acids, plasticizers, and oleic esters are included. The folder, "Emeryfacts, Specifications and Characteristics," may be obtained by writing Emery at Carew Tower, Cincinnati 2, Ohio.

— ★ —

### **Fisher to Interdonati**

Bernard M. Fisher has joined Henry Interdonati, Inc., New York, as manager of the special chemicals department, it was announced recently. He was formerly assistant director of the special chemicals division of Winthrop-Stearns, Inc., New York. Prior to joining Winthrop seven years ago he was associated with Shepard Chemical Corp., New York.

— ★ —

### **New Felton Sales Manager**

Adolph Dingfelder has been advanced to the position of sales manager for Felton Chemical Co., Brooklyn, N.Y., it was announced recently. He joined the firm's export department five years ago.

**Adolph Dingfelder**



### **SOCMA Nominees**

The Synthetic Organic Chemical Manufacturers Association of the United States recently announced the following six candidates to serve on the nominating committee to recommend a slate of officers for 1955-56: R. R. Bumsted, Jr., Verona Chemical Co., Newark, N. J.; C. K. Egeler, Sherwin-Williams Co., New York; H. H. Hachen, Trubek Laboratories, Inc., East Rutherford, N. J.; O. M. Morgan, National Aniline Division, Allied Chemical & Dye Corp., New York; P. L. Tobey, Industrial Dyestuff Co., Providence, R. I.; and S. H. Williams, General Aniline & Film Corp., New York. The nominating committee will be chosen at the SOCMA meeting on Oct. 11 at the Hotel Commodore, New York.

— ★ —

### **Ball Names Donaldson**

Ball Brothers Co., Muncie, Ind., has named James W. Donaldson as general manager of its West Coast division, it was announced recently. He succeeds Hugh J. Crawford, who requested the change for reasons of health. Mr. Donaldson will make his headquarters at Ball's glass container and closure plant in El Monte, Cal.

— ★ —

### **Buy's National Dispenser**

National Sanitary Supply Co., Los Angeles, has acquired the patent rights and sale rights of all soap dispensers formerly manufactured by National Soap Dispenser Co., Los Angeles, it was announced recently by Albert B. Rubin, vice-president of National Sanitary Supply Co. Edward Lane is president of National Sanitary Supply Co., which will manufacture and sell dispensers to sanitary supply jobbers in the U.S., Canada and many other foreign countries. The former owner of National Soap Dispenser Co., Dean S. Curtis, has announced that he is retiring from active business. The new management plans to continue the sale of the National paste dispenser, which also dispenses waterless hand cleaner.

### Boston BIMS Golf Winners

BIMS of Boston held their last golf outing of the season on Sept. 13 at Nashua Country Club, Nashua, N. H. The special prize of a television set was won by Elmer E. Ross, T. C. Ashley Co.

Winners of golf prizes were: George A. T. Moore, A. E. Staley Manufacturing Co.; James P. Kelly, Pacquin's Inc.; C. F. Karkalits, Jr., Hoffman-La-Roche, Inc.; Herbert S. Kishbaugh, Solvay Process Division; Clinton P. Hill, Hill Management Corp.; Charles W. Houghton, Safety Fumigant Co.; C. Ernest Ingham, Ingham of Boston; Robert Bennink, J. R. Poole Co. Door prizes went to Dennis McLaughlin, Dow Chemical Co.; Irving G. Loxley, Heyden Chemical Corp.; William Peters, Winslow Bros. & Smith Co.; E. E. Aldrich, Rexall Drug Co.; M. E. Nourse, Howe & French, Inc.; George Blake, Givaudan-Delawanna, Inc.; I. E. LaRue, Jr., Magnus, Mabee & Reynard, Inc.; and Richard Swanson, Raffi-Swanson.

At the previous outing, which was held at Vesper Country Club on Aug. 18, golf prizes were won by Jack Vandewater, R. W. Greeff & Co.; George Moore, A. E. Staley Manufacturing Co.; M. E. Nourse, Howe & French, Inc., who also won the special prize, and V. A. Porter, Mac Alaster Bicknell Co.

### Polak Agent Moves

Polak's Frutal Works, Inc., Middletown, N. Y., announced recently that its agent in the Detroit area has moved. Robert A. Willihnganz, consulting engineer is now located at 283 Tuxedo Avenue, Highland Park, Mich.

### NACA Meets, Reelects Allen

Three new members were elected to the board of directors of the National Agricultural Chemicals Association and the president and vice-president were elected to second terms during the association's recent 22nd annual meeting held in Spring Lake, N.J. The new directors elected for five year terms are:

James D. Hopkins, president, Hopkins Agricultural Chemical Co., Madison, Wis.; William J. Lüpfert, senior partner, Woodfolk Chemical Works, Ltd., Fort Valley, Ga., and Loren P. Scoville, general manager, chlorinated products division, Diamond Alkali Co., Cleveland.

W. W. Allen, manager, agricultural chemical sales, Dow Chemical Co., Midland, Mich., was re-elected for a second term as president, and Fred W. Hatch, manager, agricultural chemical division, Shell Chemical Corp., New York, was chosen to serve again as vice-president.

Retiring directors include:

A. W. Mohr, president, California-Spray Chemical Corp., Richmond, Calif.; Russell B. Stoddard, formerly manager, Fairfield Chemical Division, Food Machinery & Chemical Corp., New York, and recently advanced to the administrative staff of FMC chemical division; and T. L. Wilkerson, general sales manager, agricultural chemicals division, American Cyanamid Co., New York.

The National Agricultural Chemicals Association will hold its spring meeting in the Hollywood Beach Hotel, Hollywood Beach, Fla., Mar. 14-18, it was announced by Lea S. Hitchner, executive secretary of NACA.

Features of the 22nd annual meeting included a talk on "What Government Research Means to the Pesticide Industry" by Dr. S. W. Simmons, chief of the technology branch, Communicable Disease Center, U.S. Public Health Service, Atlanta, Ga. A panel discussion of the Miller Amendment was participated in by Winton B. Rankin, assistant to the commissioner, Food and Drug Administration, Department of Health, Education and Welfare; Dr. W. G. Reed, head, pesticide regulations section, Plant Pest Control Branch, U.S. Department of Agriculture; Dr. Charles E. Palm, head, department of entomology, Cornell University, and John D. Conner, NACA Washington counsel.

### Nopco Plans Pilot Plant

Construction of a new pilot plant is being planned by Nopco Chemical Co., Harrison, N.J. Definite plans have not yet been drawn up but a site covering approximately 10,000 square feet located on the Passaic river front has been selected. It is hoped that the multi-story building will be ready for occupancy early in 1956.

### New Union Bay "Ubatol"

An improved modified polystyrene emulsion for formulation of self-polishing floor waxes was announced recently by Union Bay State Chemical Co., Cambridge, Mass. "Ubatol U-2002", like its predecessor "U-2001," features fine particle size, but contains a higher concentration of solids and forms films of higher flexibility requiring less plasticizer. Good and durable gloss properties combined with improved wear and scuff resistance are claimed for the product. The new "U-2002" is said to give better leveling and freeze-thaw stability. No drop in the pH value of diluted or undiluted "U-2002" was observed over a 60-day period at 50°C. Formulas using "U-2001" require modification if the new product is to be used, because of reduced plasticizer requirements.

### Jensen to Am. Potash

James H. Jensen has joined American Potash & Chemical Corp., Los Angeles, as an advisory engineer at the firm's main plant in Trona, it was announced last month.

### All Plastic Aerosols

All plastic aerosol packages made their debut last month. Angelique & Co., Wilton, Conn., introduced to the retail trade 1.74 ounces of cologne in a two-ounce melamine container fitted with a plastic valve. The product retails at \$2.50. Custom molded container and valve are made by Colt's Manufacturing Co., Hartford, Conn., who offers standard design units of one and two ounce capacities in a price range close to that of glass aerosols. Colt's valve is said to be of special design and the firm sells the container-valve combination exclusively. Carrying a pressure of 18-20 psi, the plastic units can be either cold or pressure filled. In the case of Angelique, filling is done by Armstrong Laboratories of Boston.

The new cologne comes in four fragrances, "Black Satin," "White Satin," "Red Satin" and "Gold Satin."

# Chemical Specialties

## *Proceedings . . .*

**P**rinted proceedings covering the 41st mid-year meeting of the Chemical Specialties Manufacturers Association, held May 15-17 at Chicago, are now available for general sale to non-members of the Association. These published proceedings include all reports, papers and discussions at general sessions and divisional meetings. Also lists officers, board of governors, committee members and general association membership.

Proceedings are in a paper-covered volume with flexible plastic binding, 8½ x 11. Sent postpaid at \$7.50 per copy in the U. S.; \$8.00 elsewhere. Checks should accompany orders. Also some copies of proceedings of prior CSMA meetings are available at the same price. Send orders or requests for further information to

H. W. HAMILTON, *Secretary*



## Chemical Specialties Manufacturers Association, Inc.

50 East 41st Street

Melvin Fuld, President

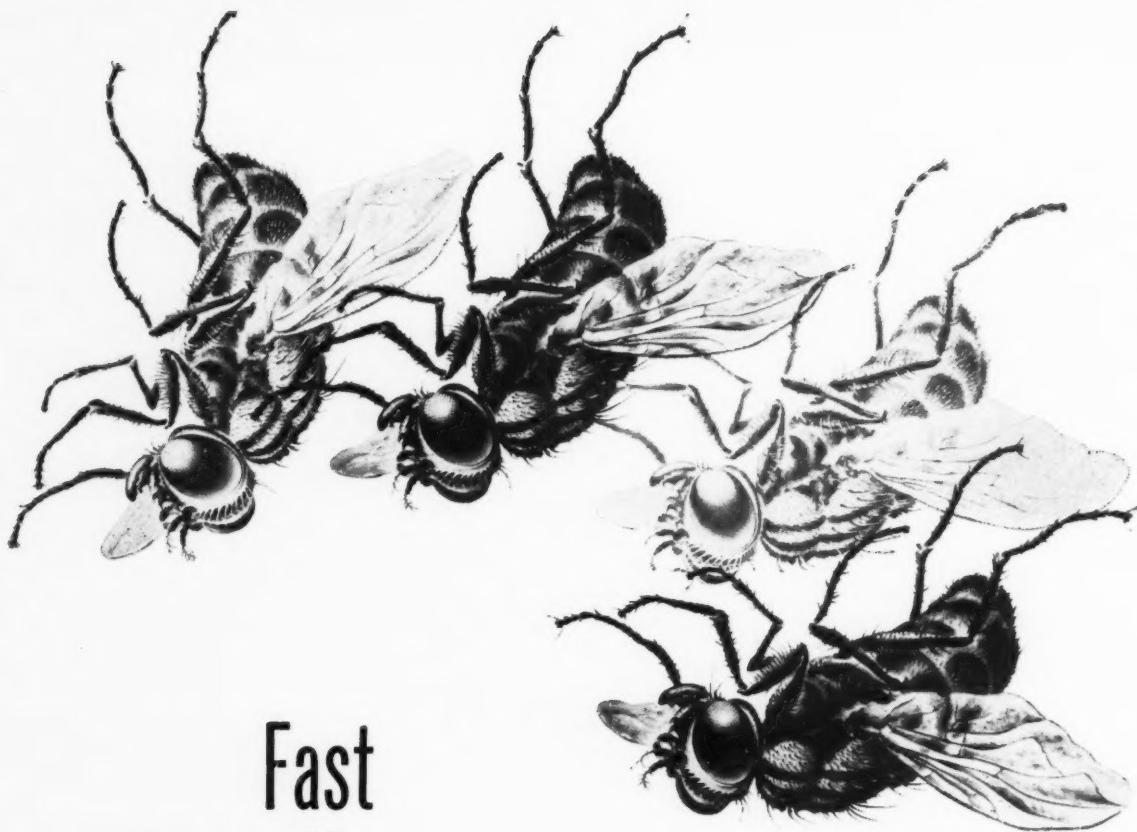
New York 17, N. Y.

Emil G. Klarmann, 1st. Vice-Pres.

Harry E. Peterson, 2nd Vice-Pres.

Peter C. Reilly, Treasurer

H. W. Hamilton, Secretary



Fast  
farewell,  
thanks to  
**LETHANE**

LETHANE 384 can give your aerosols and sprays the quick knockdown that means added sales. LETHANE is the most efficient knockdown agent per unit of cost that you can buy.

By using LETHANE in your aerosols you can make a saving of as much as three cents per can. We can suggest formulations that will help you save this money. LETHANE 384 also works wonders in cattle and barn sprays and in household sprays.

For more details, call your nearest Rohm & Haas office, or write us direct, today.

LETHANE is a trademark, Reg. U.S. Pat. Off. and in principal foreign countries.

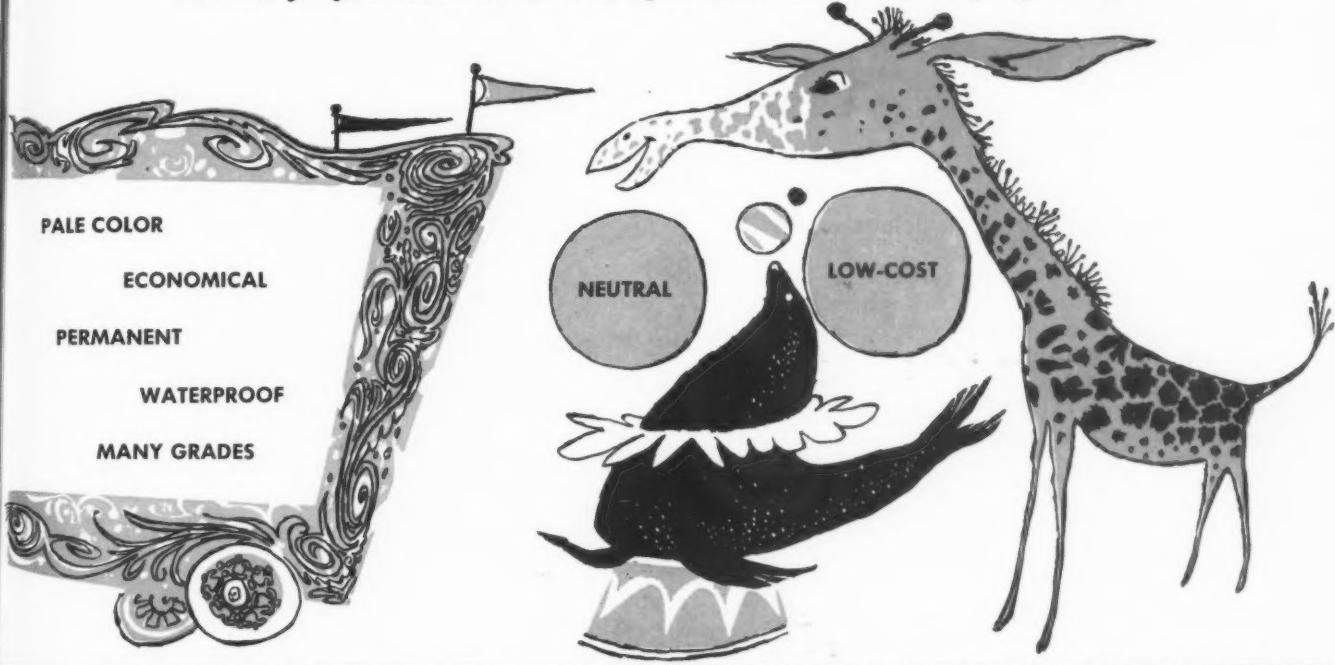
CHEMICALS FOR INDUSTRY

**ROHM & HAAS**  
**COMPANY**  
 WASHINGTON SQUARE, PHILADELPHIA 5, PA.  
Representatives in principal foreign countries

*The low-cost resin  
with SEVEN outstanding advantages*

# PICCOLYTE

*The only synthetic resin that provides all of these properties:*



**PALE COLOR**—Exceptionally light-colored hydrocarbon resin

**NEUTRAL**—Low acid number—unsaponifiable

**ECONOMICAL**—Low in first cost and soluble in low-cost petroleum solvents

**LOW-COST**—Made by modern process that permits low selling price

**PERMANENT**—Stable and non-yellowing — unaffected by alkalies and salts

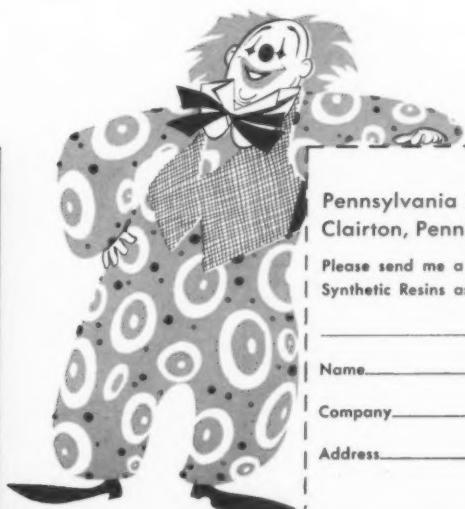
**WATERPROOF**—Piccolyte resins are unaffected by water or moisture

**MANY GRADES**—Standard and special grades in melting points from 10° C to 135° C

**Pennsylvania Industrial Chemical Corp.**  
Clairton, Pennsylvania

*Plants at:*  
Clairton, Pa.; West Elizabeth, Pa.; and Chester, Pa.

*District Sales Offices*  
New York, Chicago, Philadelphia, Pittsburgh, Detroit



**Pennsylvania Industrial Chemical Corp.**  
Clairton, Pennsylvania

Please send me a copy of your bulletin describing PICCOLYTE Synthetic Resins and samples of grade for (application) \_\_\_\_\_

Name \_\_\_\_\_ Position \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

## HOW TO STAR YOUR PRODUCTS AS AEROSOLS



Even slow-moving products have been reborn as best sellers when packaged as aerosols. The push-button convenience of modern pressure packaging, and its elimination of loss from evaporation, spillage, and breakage have proved tremendous sales advantages. With production of aerosols now approaching 200,000,000 units yearly, a gain of nearly 4000% in ten years, it's time for even the conservatively minded to start using this appealing new packaging technique.

### Not a Cent Is Needed for Special Equipment or Personnel!

Nothing in merchandising could be simpler than giving your products the sales advantages of aerosol packaging. If they can be sprayed, brushed on, dusted or daubed, see any of the Contract Fillers listed here. They have the facilities and skills to take over the entire packaging job—whether you want a small test run or volume production. You won't have to invest a penny in plant or personnel.

Specialization by the Contract Filler makes possible economies you might need months or years to achieve. He has the accumulated experience to guide you in obtaining the right containers, valves and formulations. Call on his help now . . . he is your short-cut to the booming aerosol market.

For further information,  
send for our illustrated  
technical manual and  
market data book . . .  
**"ALL ABOUT AEROSOLS"**

# These Contract To The

The Finest Aerosols are Made  
with

# genetron<sup>®</sup>

Aerosol Propellants

### A propellant for every need

Scores of different types of products have been successfully packaged and merchandised as aerosols with the use of General Chemical's *Genetron* Propellants. They are used alone or in combination to provide the ideal propellant for every aerosol need, every pressure and compatibility requirement, every type of container. *Genetrons* include:

GENETRON 12—Dichlorodifluoromethane  
GENETRON 11—Trichloromonofluoromethane  
GENETRON 12/11 MIXES  
GENETRON 320—Dichlorotetrafluoroethane  
GENETRON 320/12 MIXES  
GENETRON 101—Monochlorodifluoroethane  
GENETRON 320/101 MIXES  
GENETRON 226—Trichlorotrifluoroethane  
GENETRON 141—Monochlorodifluoromethane  
GENETRON 100—Difluoroethane (1-1)  
SPECIAL PROPELLANTS

GENETRON DEPARTMENT  
**GENERAL CHEMICAL DIVISION**  
ALLIED CHEMICAL & DYE CORPORATION  
40 Rector Street, New York 6, N. Y.



Basic Chemicals For American Industry

# *Fillers Are Your Short-Cut Rich Aerosol Market!*

## **Contract Fillers**

The Contract Fillers listed are equipped to fill aerosols with *Genetron* Propellants and are believed thoroughly qualified. Care has been taken to make the list complete, but there may be others in your area who can serve you equally well.

Aero-Fil, Inc. 10015 West Pacific Ave. Franklin Park, Ill.	Chase Products Co. 20th & Gardner Road Broadview, Ill.	Lawson Chemical Products Co. 5634 Selmarine Drive Culver City, Calif.	Regal Chemical Corp. 115 Dobbin St. Brooklyn 22, N. Y.
Aeropak, Inc. 3001 West 47th St. Chicago 32, Ill.	Chemi-Form Corp. 1631 South Michigan Ave. Chicago 16, Ill.	Lenk Manufacturing Co. 30 Cummington St. Boston, Mass.	Gene Rose Co., Inc. 1637 South Kilbourne Ave. Chicago, Ill.
Aerosol Corporation of the South 203 Scott St. Memphis, Tenn.	Cleveland Aerosol Packaging Corp. 425 Lakeside Ave., N.W. Cleveland 13, Ohio	McGuire & Co. 833 47th Ave. Oakland, Calif.	Schaefer Paint Company 334 West Marion St. Lancaster, Penn.
Aerosol Methods Johnson Road Morristown, Pa.	Connecticut General Research Corp. 706 Bostwick Ave. Bridgeport, Conn.	National Aerosol Packaging Corp. 330 S. Wells Ave. Chicago, Ill.	Sprayon Products Co. 2075 East 65th St. Cleveland, Ohio
Aerosol Co., Inc. 525 North 11th St. Neodesha, Kansas	Connecticut Chemicals (Canada) Ltd. Curity Ave. and Hollinger Road Toronto, Ontario	National Spray Can Filling Corp. 1238 East 14th St. Brooklyn, N. Y.	Stalfort Pressure-Pak, Inc. 319 West Pratt St. Baltimore, Md.
A-M-R Chemical Co., Inc. 985 East 35th St. Brooklyn, N. Y.	Continental Filling Corp. 123 North Hazel St. Danville, Ill.	New Jersey Aerosol Packaging Co. 108 Ashland Ave. West Orange, N. J.	John Struthers & Co., Ltd. 3081 Ontario St., East Montreal, Quebec
Armstrong Laboratories 421 La Grange St. Boston 32, Mass.	Edgerton & Riley, Inc. Muirkirk, Md.	Par Industries, Inc. 2193 East 14th St. Los Angeles, Calif.	Sun-Lac, Inc. 725 Fairfield Ave. Kenilworth, N. J.
Associated Brands Inc. 35 Claver Place Brooklyn 16, N. Y.	Eveready Pressurized Products, Inc. 1022 Belt Line St. Cleveland, Ohio	Plaze, Inc. 9401 Watson Industrial Park St. Louis, Mo.	Transco Co. 728 Chronicle Bldg. Houston 2, Texas
C. Barr & Co. 3601 South Racine Ave. Chicago, Ill.	Fluid Chemicals Co., Inc. 878 Mt. Prospect Ave. Newark, N. J.	Powr-Matic, Inc. Stroudsburg, Pa.	Whitmire Research Laboratories, Inc. 339 So. Vandeventer St. St. Louis, Mo.
Bridgeport Brass Co. East Main St. & Crescent Ave. Bridgeport, Conn.	Robert J. Kerr Chemicals, Inc. 9 South Fairview Ave. Park Ridge, Ill.	Powr-Pak, Inc. 643 North Ave. Bridgeport, Conn.	Western Filling Corp. 4151 Bandini Blvd. Los Angeles, Calif.
Cardel Enterprises Bethridge Road—Rexdale Toronto, Ontario	LaMaur Products, Inc. 520 Plymouth Bldg. Minneapolis, Minn.	Products Manufacturing Corp. 135 Stevens Ave. Little Falls, N. J.	Zenith Drug Co. 1 Vesey St. Newark, N. J.
		Puritan Distributing Co. 160 Washington St., North Boston 14, Mass.	Zonite Products Corp. 500 Jersey Ave. New Brunswick, N. J.

# **Announcing . . . .**

A new monthly magazine

## **SANITATION & MAINTENANCE SUPPLIES**

reaching jobbers, dealers and distributors of

**Sanitary Chemicals                      Cleaning Supplies  
Maintenance Equipment**

**First issue, January, 1956**

Editorially the new magazine will place its chief emphasis on selling, distribution, warehousing and other matters of deep interest to the jobber and distributor. A wide growth in the sale of sanitary and maintenance supplies and in the number of firms jobbing and dealing in these products makes this new publication a "natural."

To be published by  
**MAC NAIR-DORLAND COMPANY**  
Publishers of "Soap & Chemical Specialties"

**Initial circulation....4,500 copies monthly**

If you are interested in further details, write to  
**MacNair-Dorland Company**  
254 West 31st St., New York, 1, N. Y.



**OIL-RETARDANT ACTION** of "Ludox" is strikingly demonstrated on a piece of wallboard which has just been brushed with carbon black. Invisible message painted on with "Ludox" solution is revealed when dirt clings only to untreated areas.

**The secret:** "Ludox" itself is very finely divided silica—several millimicrons smaller than the tiniest grains of dirt. Applied to a clean surface, "Ludox" fills the microscopic pits and crevices where dirt usually collects and literally robs it of a home.

# Du Pont announces new uses for **SOIL-RESISTING LUDOX**

COLLOIDAL SILICA

**Research discloses new market opportunities for products based on "Ludox" to retard soiling of rugs, carpets, upholstery materials, paper, wallboard, painted surfaces.**

Du Pont research gives the answer to the age-old problem of dirt and soiling. It's "Ludox" colloidal silica.

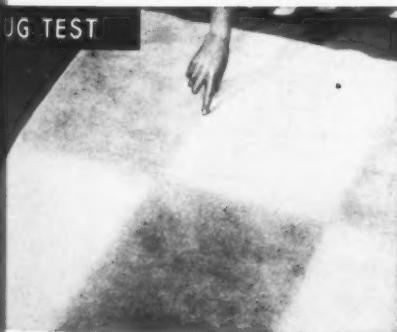
Odorless, colorless, and non-staining, "Ludox" is easily applied to any porous surface. It dries to form an invisible barrier against dirt. Treated surfaces stay clean far longer.

What does this mean in terms of new business opportunities for you?

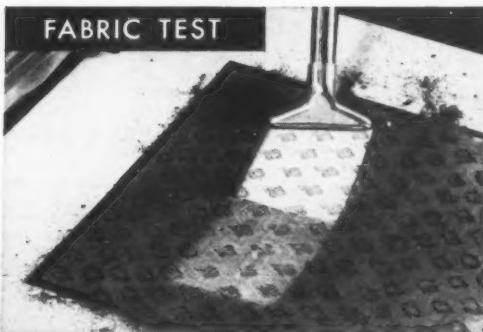
Already, products containing "Ludox" are appearing on the market for textile floor coverings, upholstery, drapes, Venetian blinds, lamp shades. Some preparations combine cleaning and anti-soil treatments in one operation.

What next? Some possible anti-soil uses of "Ludox" uncovered by research are shown on this page.

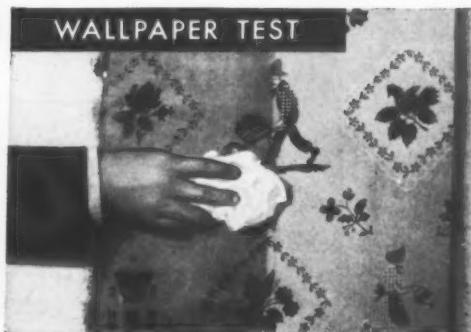
## How can you use this chemical that retards soiling on so many surfaces?



**WALLBOARD TEST**  
CHECKERBOARD EFFECT on rug shows where "Ludox" is applied in alternate squares. Dirt remains on untreated areas after wear and normal vacuuming. Treated sections keep their original fresh look.



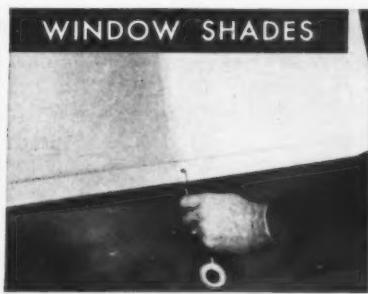
**FABRIC TEST**  
FABRICS RESIST DIRT when treated with "Ludox." Carpet sweepings rubbed into upholstery fabric are easily removed from treated half, but even vacuuming cannot remove same dirt from untreated area.



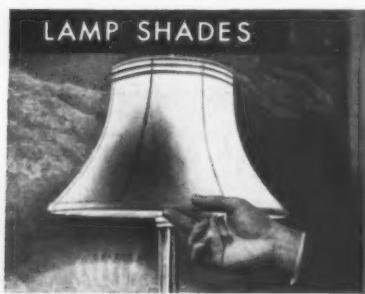
**WALLPAPER TEST**  
PAPER PRODUCTS benefit, too. Dirt brushed on wallpaper clings to untreated area when wiped with cloth. Treated section remains clean, colors as bright as new.



**VENETIAN BLINDS**  
Alternate slats shine; they're treated...



**WINDOW SHADES**  
Half this shade had benefit of "Ludox"...



**LAMP SHADES**  
Entire lamp shade could have remained clean...



**PAINTED SURFACES**  
Dirt can't cling to X painted with "Ludox."

**DU PONT LUDOX®**  
COLLOIDAL SILICA

**DU PONT**

REG. U. S. PAT. OFF.

FOR BETTER LIVING . . . THROUGH CHEMISTRY

### Find out more about "Ludox"

What can you do with this unusual anti-soil chemical? For those interested in marketing anti-soil preparations, Du Pont offers both material and technical data.

If you'd like more information, or a sample, use the coupon or write us on your letterhead.

E. I. du Pont de Nemours & Co., Inc. Grasselli Chemicals Department Room 2539 Nemours Bldg., Wilmington 98, Del.
<input type="checkbox"/> Please send me further information on "anti-soil" uses of "Ludox."
<input type="checkbox"/> Please send me a laboratory sample.
NAME _____
FIRM _____
POSITION _____
ADDRESS _____
CITY _____ STATE _____



# only ORTHO Lindane\*

*gives you all these advantages*

---

## GUARANTEED GAMMA

---

-- minimum pure gamma isomer 100%. ORTHO Lindane assures you of true Lindane quality actually higher than minimum Government requirements for pure Lindane.

## EASY FORMULATIONS

---

--easily handled--easily formulated as a spray or dust. ORTHO Lindane crystal particles are dry, free-flowing. Easily ground to micro-size.

## STABILITY

---

--chemically stable.

## MANUFACTURING "KNOW-HOW"

---

--made exclusively by the original manufacturers of Lindane in the U.S.A.

\* ORTHO Lindane is a truly amazing insecticide offering high potency, rapid action, and residual control. Kills more than 200 varieties of insects by contact, vapor action, and stomach poison.

CALIFORNIA SPRAY-CHEMICAL Corp.

Maumee, Ohio  
Medina, N. Y.  
Linden, N. J.  
Shreveport, La.  
Goldsboro, N. C.

Portland, Ore.  
Sacramento, Calif.  
San Jose, Calif.  
Fresno, Calif.  
Orlando, Fla.

Whittier, Calif.  
Caldwell, Idaho  
Maryland Heights, Mo.  
Oklahoma City, Okla.  
Phoenix, Arizona

T.M. REG. U.S. PAT. OFF. © ORTHO

World leader in  
scientific pest control

**ORTHO**



**SELL WITH**

*Scent*

**E**ffective odor treatment, whether

modifying a basically unpleasant odor or adding a fresh clean note, will

have a telling effect on the sale of any product . . . be it a DETERGENT,

a PAINT, an INSECTICIDE, a FLOOR WAX, a FURNITURE POLISH,

or any of the multitude of AEROSOL packaged items.

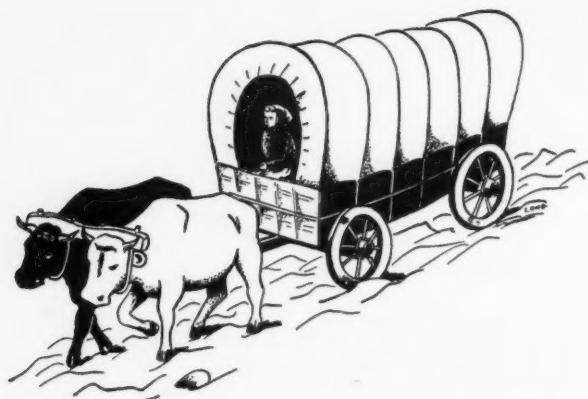
This fact has been proven time and time again in today's market.

Consider your product from the standpoint of its odor and

call for advice upon the skill and experience of the

perfume chemists of van Ameringen-Haebler, Inc.

**VAN AMERINGEN - HAEBLER, INC.**  
**521 WEST 57th STREET, NEW YORK 19, N. Y.**



## Since the Days of the "Covered Wagon..."

CHECK YOUR NEEDS  
FROM THIS LIST

### VEGETABLE OILS

Babassu	Olive
Castor	Palm
Cocoanut	Peanut
Corn	Sesame
Cottonseed	Soybean

### ANIMAL FATS

Sperm Oil	Grease
Oleo Stearine	Tallow
Lard Oil	Lanolin
Neatsfoot Oil	

### FATTY ACIDS

Red Oil	Tall Oil	Tallow
	Stearic Acid	
Hydrogenated Fatty Acid		
Cottonseed and Soybean		
Fatty Acids		

### ALKALIES

Caustic Soda, Solid, Liquid, and Flake; Soda Ash, Light and Dense Carbonate of Potash, calcined and hydrated Calcium Chloride Tri Sodium Phosphate Tetra Pyro Phosphate Quadrafos Granular and Beads—a stable polyphosphate for water conditioning and mild but effective detergency.

## Soapers have depended on WH&C ...for Raw Materials of Quality

SINCE 1838, we've been supplying the nation's "soapers" with basic raw materials.

**SILICATE OF SODA**—Liquid powdered and solid.

**METSO\* 200**—(Sodium Orthosilicate)

**METSO\* ANHYDROUS**—(Anhydrous Sodium Metasilicate)

**METASILICATE**—"Metso"\*\* Granular.

**METSO\* DETERGENTS**—55, 66, 99.

**MAYPONS**—Unique surface active agents; prolific foam; high detergency and emulsifying powers; suitable for cosmetic and industrial use.

AIR DRYETTES

• CHLOROPHYLL

\*Reg. U. S. Pat. Off., Phila. Quartz Co.

Let us mix your dry private formulas

Established 1838

*Welch, Holme & Clark Co., Inc.*

439 WEST STREET

NEW YORK 14, N. Y.

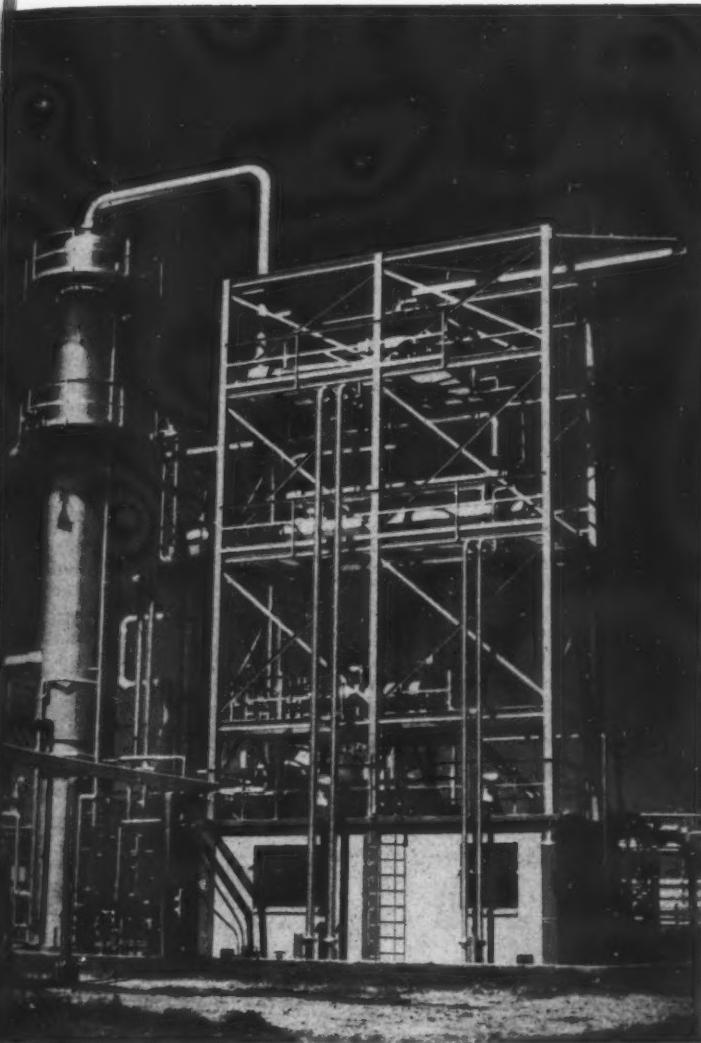
Warehouses in New York and Newark, N. J.

**NEW**



# R-50

**A 50-50 wax-resin blend**



**NOTE THESE  
ADVANTAGEOUS SPECIFICATIONS**

ACID NO.	SAP. NO.	R & B S. P., °F	COLOR, NPA	PEN 100/5
<b>40-50</b>	<b>65-80</b>	<b>190-200</b>	<b>4½ Max</b>	<b>2 Max</b>

Petrolite Waxes are stocked at and available  
for delivery from Jersey City, New Jersey;  
Chicago, Illinois; Los Angeles, California  
and Kilgore, Texas.

The many advantages of using microcrystalline waxes in emulsion polishes have resulted in the development of compatible synthetic resins for use as hardening agents. However, the blending of the wax with the resin results in additional problems of manufacturing, materials storage and specifications control.

Petrolite's new R-50 eliminates all the inconvenience formerly encountered in blending. It is composed of a Petrolite-developed high melting phenolic terpene resin and oxidized microcrystalline wax. It provides a light colored, wax-resin blend suitable for use in all emulsion equipment. It makes possible the formulation of wax-resin polishes in the usual low-pressure steam manufacturing equipment.

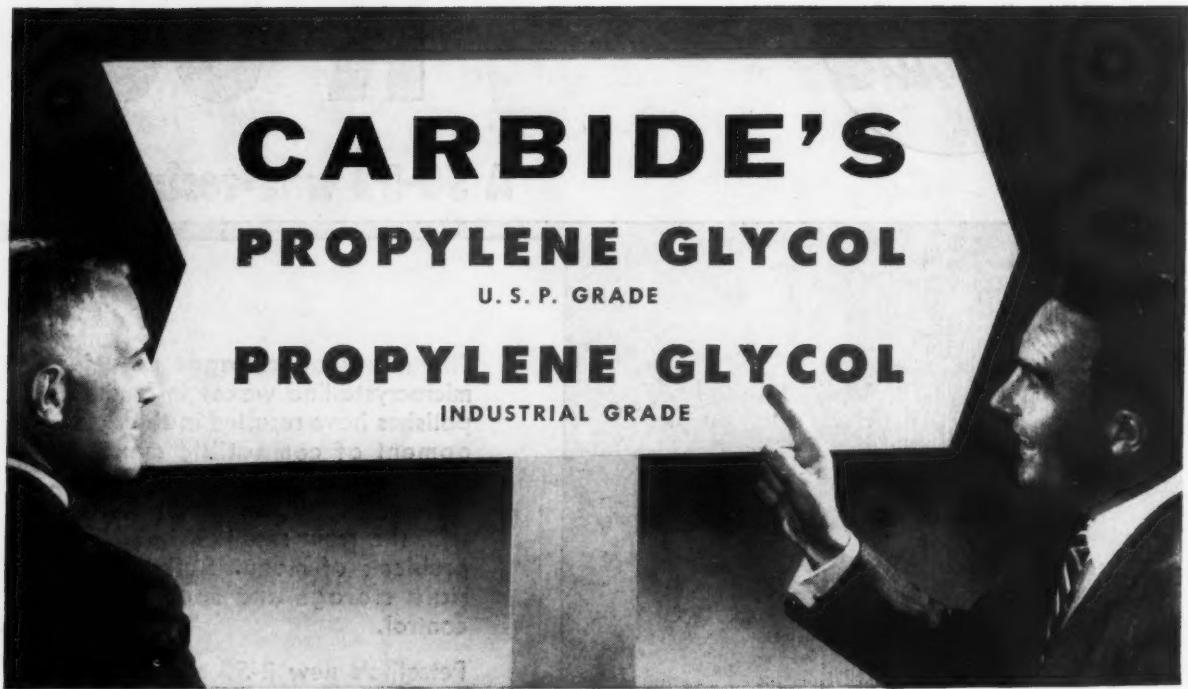
R-50 has excellent compatibility with the waxes generally used for emulsion polishes. It readily lends itself to many different types of no-rub polish formulations.

R-50 is shipped in 100-pound cartons. Samples, prices and formulation information are available on request.

**PETROLITE  
CORPORATION**

**WAX DIVISION**

Chrysler Building, New York 17, N.Y.  
P.O. Box 390, Kilgore, Texas



## *You're looking in the right direction*

Propylene glycol U.S.P.—a glycol with proven high purity—has the excellent properties demanded by industry for pharmaceuticals, dyes, food flavors, and certain perfumes. Propylene glycol also assists in the dispersion of soaps, oils, waxes, and greases in water.

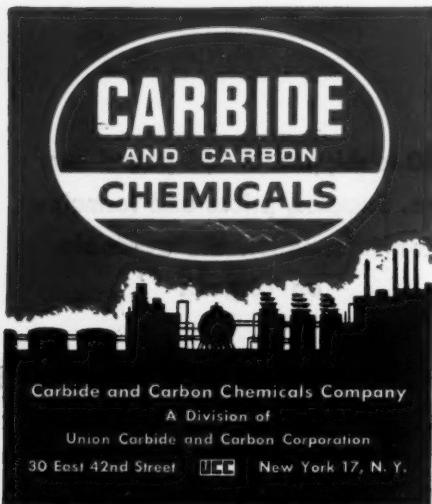
When used in cosmetic and brushless shaving creams, for example, propylene glycol enhances the softening and cleansing action on the skin and is a mild humectant for the cream. In brushless shaving creams, it aids in

coupling the oils and lanolin in water.

CARBIDE also produces an industrial grade of propylene glycol that is widely used as a component of polyester resins, a coupler in hydraulic brake fluids, and as a coolant in refrigeration systems.

Carbide and Carbon Chemicals Company, producer of propylene glycol since 1931, produces thirteen other diols and triols:

- Ethylene glycol
- Diethylene glycol
- Triethylene glycol
- Dipropylene glycol
- CARBOSEAL Anti-leak
- KROMFAX Solvent (Thiodiglycol)
- 2-Ethyl-2-Butyl Propanediol-1,3
- 2,2-Diethyl Propanediol-1,3
- Hexylene Glycol
- 3-Methyl Pentanediol-1,5
- Hexanetriol-1,2,6
- 2-Ethylhexanediol-1,3
- Pentanediol-1,5

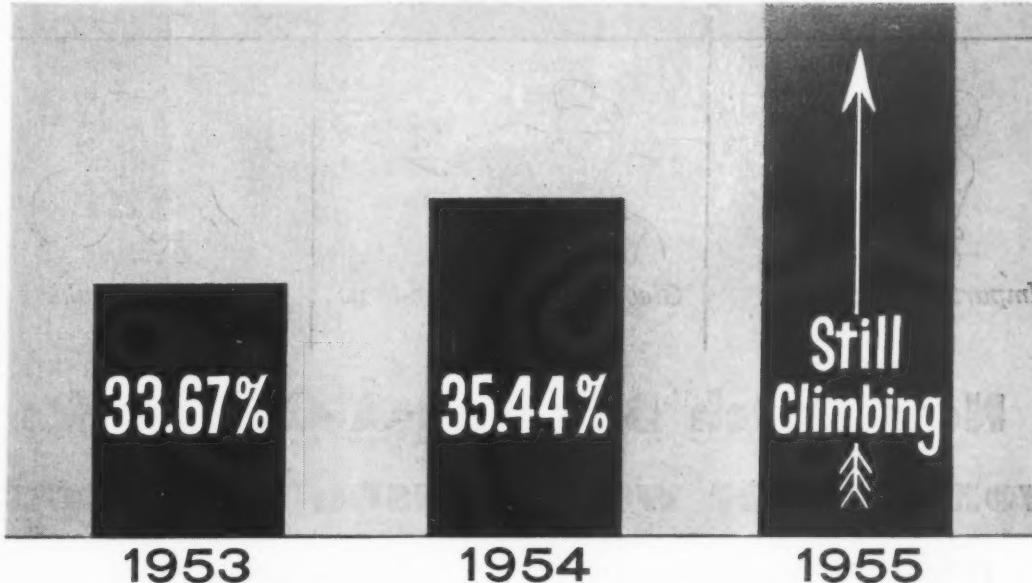


For further information on propylene glycol or any CARBIDE chemical, write for your copy of "Physical Properties of Synthetic Organic Chemicals" (F-6136) or the "Glycols" booklet (F-4763). Offices in principal cities—in Canada: Carbide Chemicals Company, Division of Union Carbide Canada Limited, Montreal and Toronto.

The terms "Kromfax" and "Carboseal" are registered trade-marks of Union Carbide and Carbon Corporation.

# CHLORDANE

## Still No. 1 Seller



**$3\frac{1}{2}$  Million Gallons of  
Chlordane Insecticide Sold Last Year!**

The increasing leadership of Chlordane insecticides in the packaged field has one principal cause—*greater profits to formulators*. These profits are the result of both nationwide consumer acceptance of Chlordane, and an attractive pricing situation to the formulator. Consumer preference always has a reason. In the case of Chlordane, it is the result of *proven performance* over more than eight years. The consumer *knows Chlordane* and *asks for it* by name. If you are not now formulating Chlordane, write for details on how the nation's leading package insecticide can make more sales for you.

**WATCH FOR BIGGER AND BETTER CHLORDANE PROMOTIONS IN 1956!**

**VELSICOL CHEMICAL CORPORATION**

REPRESENTATIVES IN PRINCIPAL CITIES  
General Offices and Laboratories 330 East Grand Avenue, Chicago 11, Illinois  
Export Division 350 Fifth Ave., New York 1, N.Y.

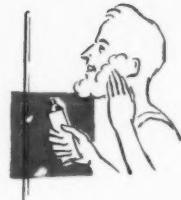




*Simplifies wash-away*



*Strengthens adhesion*



*Promotes smoothness*



*Imparts pleasant slip*



*Gives complete freeze-thaw stability*



*Prevents caking*

## New Dutch Boy Ben-A-Gel works wonders for water-based compounds

### *Unique thickening action improves quality six ways, users say*

BEN-A-GEL is a highly efficient, *inorganic* gelling agent that acts as an emulsifier of oil-in-water and water-and-immiscible-organic-liquids systems. It also makes aqueous systems compatible with a wide range of organic polar liquids.

BEN-A-GEL has unique thickening powers. Very small concentrations do amazing things for liquid make-ups, creams, lotions (medicated and un-medicated), salves, ointments, and comparable compounds.

**Simplifies wash-away:** BEN-A-GEL keeps deposited films a little moist to aid wash-away. It also promotes pigment wetting, helps loosen particles that cling to the skin.

**Strengthens adhesion:** BEN-A-GEL aids other binders used in such products as suntan make-up or calomine lotion. It keeps film flexible, resistant to flake-off.

**Promotes smoothness:** Bland, non-abrasive BEN-A-GEL is chemically inert. Ultimate particle size, when fully dispersed, is one micron or less.

**Imparts pleasant slip:** BEN-A-GEL develops a thixotropic body. Compounds do not "run" yet they rub in smoothly without "dryness" or friction.

**Gives complete freeze-thaw stability:** BEN-A-GEL maintains emulsion even from

freeze to thaw. It also imparts resistance to thin-out at high temperatures.

**Prevents caking:** BEN-A-GEL prevents hard settling in all pigmented systems. In products like liquid mascara, it imparts long shelf life.

With BEN-A-GEL, products stay fresh and sweet. BEN-A-GEL is non-oxidizing and not subject to micro-biological degradation.

### *Dutch Boy Bentone, 34 used for water-in-oil emulsions*

In lipsticks, cold creams, make-up bases and similar products the Dutch Boy Gelling Agent, BENTONE 34, provides much the same benefits as BEN-A-GEL. It imparts a high degree of temperature independence and a smooth thixotropic body with a luxurious "feel."

You can get details of composition, properties, uses, and incorporation of BEN-A-GEL and BENTONE 34 very easily. Just write. To make the data you receive more pointed, it pays to include something about the usage you are considering.

**Dutch Boy<sup>®</sup>**  
**CHEMICALS**



NATIONAL LEAD COMPANY

111 Broadway, New York 6, N. Y.

In Canada: CANADIAN TITANIUM PIGMENTS LIMITED  
630 Dorchester Street, West • Montreal

SOAP and CHEMICAL SPECIALTIES



**She doesn't know  
what CARDIS ONE\* is...**

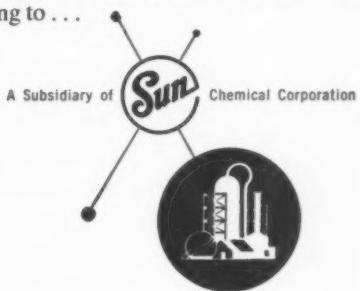
**but luckily for her,  
this polish  
maker does!**



The luster and lasting brilliance of her furniture and floors is a tribute to her own housekeeping . . . and to the skillful blending that has developed new wax-rich emulsions based on CARDIS ONE. This emulsifiable petroleum wax is the hardest on the market; is the *only* one, in fact, with Penetration One-Two. Combining CARDIS ONE with Cane Wax 700 and Warco 180 White produces emulsions that provide scuff-, soil- and water-resistant films of the highest gloss and durability. Formulations are simple and raw-material costs low.

CARDIS ONE (melting point 195°-200°F) is one of the many new waxes developed by Warwick to provide manufacturers with formulations that answer the growing consumer demand for wax-rich polishes. For facts about wax, come to Warwick. Samples, suggested formulations and technical service available—without obligation—by writing or telephoning to . . .

\*U. S. Pat. No. 2471102



**Warwick Wax Co., Inc.**

10th Street and 44th Avenue, Long Island City 1, N. Y.  
STILLWELL 6-1100

**DIVISIONS OF SUN CHEMICAL CORPORATION**

HORN • HUDSON • WILLEY (paints, maintenance and construction materials, industrial coatings) • WARWICK (textile and industrial chemicals) • WARWICK WAX (refiners of specialty waxes) • RUTHERFORD (lithographic equipment) • SUN SUPPLY (lithographic supplies) • GENERAL PRINTING INK (Sigmund Ullman • Fuchs & Lang • Eagle • American • Kelly • Chemical Color & Supply Inks) • MORRILL (news inks) • ELECTRO-TECHNICAL PRODUCTS (coatings and plastics) • PIGMENTS DIVISION (pigments for paints, plastics, printing inks of all kinds)



## Note This Symbol...

This is the symbol of membership in the Audit Bureau of Circulations. Where magazines are concerned, it is akin to the "sterling" mark on silverware. It means that publications displaying the symbol (See Page 5) are giving their advertisers audited paid circulations. In short, readers pay out real money to get these magazines. This is in sharp contrast to those publications which are just mailed out willy-nilly to every Tom, Dick and Harry at no cost or without even a request from the alleged reader.

Obviously, paid circulation is quality circulation. But there is also another important test of circulation quality, of real readership. How many subscribers renew their subscriptions the second, third, fourth times, — keep sending in their hard cash year after year? Pretty good test whether a magazine is read, isn't it? Maybe you can sell 'em once with high pressure, but how about the repeat orders? They're the real acid test.

The latest subscription renewal rate percentage as shown by the ABC report of June 30, 1955, for SOAP & CHEMICAL SPECIALTIES is 81.76%, an exceptionally high figure. This figure has been consistently over 80% for years. For most business magazines, 60-65% is average and 70% is considered good. But, remember, this is for audited-paid subscription magazines. The throw-around, give-away publications as well as those who just claim, but don't prove "paid" circulations are not even worth considering in this argument.

So, when you see this ABC circulation quality symbol, look further, — check up also on the subscription renewal percentage, — on how many subscribers keep buying the magazine year after year. For that's the true test of readership, — of circulation quality.

### SOAP & CHEMICAL SPECIALTIES

published monthly since 1925 by  
**MAC NAIR-DORLAND COMPANY**

254 West 31st St.

New York 1, N. Y.

Please note—  
the information  
contained on this  
page will be of no  
particular interest  
to anyone except  
manufacturers of  
**LIQUID FLOOR WAXES!**

### **PETRONAUBA "C"**

Melting Point.....	180 Min.
Penetration .....	7 Max.
Color .....	3 Max.
Acid Number.....	.22/.28
Saponification Number.....	.50/.60
Viscosity .....	130 Max.

As compared with other oxidized waxes now on the market, Petronauba "C" has a distinct color advantage of 2½-NPA. The next closest being Bareco's own Petronauba "D". Users have reported greater stability in emulsion form as compared with competitive brands. Petronauba "C" is packed in cartons, each carton containing four 20-lb. slabs. Also available in palletized cartons, in truck load and/or carload quantities only. Samples are available for testing in your own laboratory.

Four years ago the Bareco Oil Company started manufacturing its first emulsifiable wax. This was the Petronauba "C" grade which brought to the liquid floor polish industry increased stability and uniformity plus much lighter color. Petronauba "C" was enthusiastically received by manufacturers who were starting to rely more and more on emulsifiable petroleum waxes to replace or extend the more expensive and less plentiful natural wax products. Recently Bareco, through new discoveries in emulsifiable wax research, has started marketing Petronauba "D", and the outstanding reports from laboratories all over the country once again confirm the wisdom of Bareco's EXCLUSIVE dedication to the research and manufacture of petroleum waxes.

# **PETRONAUBA**

### **PETRONAUBA "D"**

Melting Point.....	185 Min.
Penetration .....	5 Max.
Color .....	Amber
Acid Number.....	.20/.28
Saponification Number.....	.50/.60
Viscosity .....	175 Max.

Through a new refining process Bareco's Petronauba "D" offers outstanding penetration to temperature relationships. In this process the soft, tacky fractions of the wax are removed. The result is a hard film which greatly increases the life span of the application. Petronauba "D" contains no additives of any kind and can be easily handled in liquid form due to its low viscosity. This amazingly low penetration emulsifiable petroleum wax is receiving widespread recognition and publicity because of its ability to resist dirt pick-up and black marking in emulsion floor finishes. Cartons contain 4 20-lb. slabs. Palletized cartons contain 84 20-lb. slabs. Samples for testing available at your request.



**BARECO OIL COMPANY**

608 S. DEARBORN ST. • CHICAGO, ILL.

P. O. BOX 2009 • TULSA, OKLA.

121 S. BROAD ST. • PHILADELPHIA, PA.

## insecticide odorants



## aerosol testing service



Wide experience in the initial development and production of insecticide raw materials has enabled D&O to offer the most effective insecticide masking odors available today. D&O insecticide odorants will cover the odor of Pyrethrum, Kerosene, Malathion, and all other important insecticide bases in the finished product . . . and individual research and testing of specific items will be carried out in the D&O Industrial Odorant Laboratories.

In the insecticide market, aerosol dispensers continue to hold undisputed first place. To assist manufacturers in the development of pressurized insecticides, the D&O Aerosol Testing Laboratories offer a complete service. All products are thoroughly tested to assure solubility, mutual compatibility with all ingredients, and shelf-life tested in a special corrosion cabinet and water-bath to ascertain that the finished package is free of leakage, corrosion or clogging at the valve. All aerosols so tested meet special Department of Agriculture standards and a wide choice of individually developed insecticide odorants is available.

Our 197th General Catalogue  
**DODGE & OLCOCK, INC.**  
180 Varick Street • New York 14, N. Y.  
SALES OFFICES IN PRINCIPAL CITIES

Industrial Chemicals • Synthetic Chemicals • Perfume Bases • Flavors • Dyes • Solvents • Resins

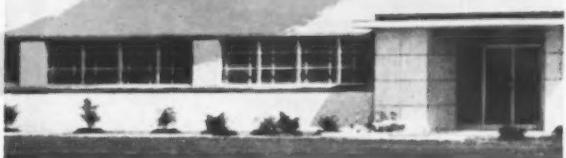
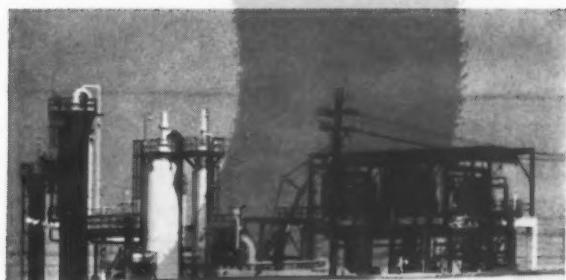
**HERE ARE**

# *Ethanolamines*

**of**

**Unsurpassed**

**Purity**



- Anhydrous Ammonia
- Ammonia Liquor
- Ammonium Sulfate
- Sodium Nitrate
- Methanol
- Ethanolamines
- Ethylene Oxide
- Ethylene Glycols
- Urea
- Nitrogen Tetroxide
- U.F. Concentrate—85
- Formaldehyde
- Nitrogen Solutions
- Fertilizers & Feed Supplements



Here is one of industry's brightest new plants—stainless steel towers and tanks, spotless piping at Nitrogen Division's new Orange, Texas, plant—to produce the highest purity Ethanolamines ever made in commercial quantities.

Shipment is made in tank cars directly from plant. Stocks are maintained throughout the country for delivery by tank truck and 55-gallon drums.

Ask for samples and quotations. Technical service is yours for the asking at no obligation. Call or write today!

## **NITROGEN DIVISION**

ALLIED CHEMICAL & DYE CORPORATION

40 Rector St., New York 6, N. Y.

Hopewell, Va. • Ironton, Ohio • Orange, Tex. • Omaha, Neb.



NOW YOU CAN OFFER YOUR CUSTOMERS  
**LONGER FLOOR WEAR  
WITH LESS CARE!**



FOR TOUGHEST TRAFFIC  
AREAS, THERE'S NOTHING LIKE  
SIMONIZ' NEW COMMERCIAL  
HEAVY DUTY FLOOR WAX—  
NATIONALLY ADVERTISED  
TO YOUR CUSTOMERS!

**SELF-POLISHING! BUFFABLE!**

For asphalt, rubber, vinyl, cork, linoleum, and other floors. Automatic high-gloss beauty. Safety approved by Underwriters' Laboratories, Inc. Pure wax finish resists dirt, wear and water, yet strips easily when required. Simoniz Commercial Heavy Duty Floor Wax. Available in 1, 5, 30, 55 gallon sizes.

**COMPLETE LINE**

**4 Other Fast Sellers in the Simoniz Bulk Line**

- ★ SIMONIZ COMMERCIAL NON-SCUFF FLOOR WAX
- ★ SIMONIZ COMMERCIAL FLOOR CLEANER CONCENTRATE
- ★ SIMONIZ "AAA" COMMERCIAL PASTE FOR FLOORS
- ★ SIMONIZ COMMERCIAL HILITE FURNITURE POLISH

**MAIL THIS COUPON TODAY**

Simoniz Company (Commercial Products Division-K2)  
2100 Indiana Avenue  
Chicago 16, Illinois

Gentlemen:

- Without obligation, please send complete details regarding your Commercial Products program.
- Please have field representative call.

Name \_\_\_\_\_

Firm Name \_\_\_\_\_

My Title \_\_\_\_\_

Street Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

**Sold Nationally  
through  
SIMONIZ  
Distributors**

**YOU WILL**

**SELL  
MORE  
SOAP..**



**WITH THESE MOORE  
DISPENSING UNITS**

Moore Brothers can help you reap lots more dollars from soap sales, with 25 styles of attractive, durable and smooth-operating dispensers for liquid, lather or powder soaps. Dispensers priced for every requirement . . . designed for all types of installations.

**WRITE FOR OUR CATALOG SHEETS AND PRICE  
LISTS TODAY!**



No. 600

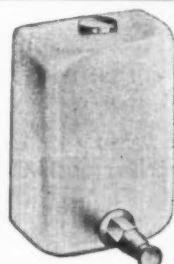
No. 650



No. 425



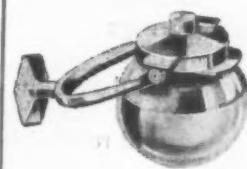
No. 100



No. 500



No. 200



No. 300



No. 700



No. 400

**MOORE BROTHERS COMPANY**

101 WARREN STREET



NEW YORK 7, N. Y.

Quality-proven Soap Dispensers and Dispensing Equipment

# ... about insecticides

## HANDBOOK OF PEST CONTROL

by Arnold Mallis



**T**HIS new HANDBOOK of PEST CONTROL by Arnold Mallis, is a completely revised edition, containing more than 200 illustrations—a much larger and more complete volume than the original HANDBOOK by Mallis, published in 1945 and out of print since 1948.

▲ This newest pest control reference volume deals primarily with household and industrial pests, insects, rodents, etc., their habits, identification, and latest methods of control. It is the most complete work of its kind ever offered in a single volume.

▲ Those who have used the original HANDBOOK by Mallis undoubtedly will want this new, up-to-date volume, a standard reference book which should be in the library of every pest control operator, insecticide manufacturer and marketer, entomologist, chemist and others interested in modern materials and methods of pest control.

▲ The new HANDBOOK of PEST CONTROL by Arnold Mallis measures six by nine inches, has a sturdy binding in green cloth, gold stamped. The book comprises twenty five chapters, running to a total of 1068 pages and is printed on durable, long-lasting paper.

### TABLE OF CONTENTS

<b>rats and mice</b>	<b>psocids</b>	<b>spider or ptinid beetles</b>
<b>silverfish</b>	<b>bedbugs and other bugs</b>	<b>lice</b>
<b>springtails</b>	<b>clothes moths</b>	<b>fleas</b>
<b>cockroaches</b>	<b>household fumigation</b>	<b>flies and mosquitos</b>
<b>crickets</b>	<b>hide and carpet beetles</b>	<b>spiders</b>
<b>earwigs</b>	<b>ants</b>	<b>mites</b>
<b>termites</b>	<b>bees and wasps</b>	<b>ticks</b>
<b>dry rot fungi</b>	<b>stored product pests</b>	<b>miscellaneous household pests and chemicals used in their control</b>
<b>wood-, book-boring and related beetles</b>		

### — Send Check with Order —

Add 3% sales tax if in New York City

**MAC NAIR-DORLAND CO.**

**254 West 31st St., New York 1, N. Y.**

Enclosed is our check for \$..... Please send us ..... copies of the HANDBOOK of PEST CONTROL. Price \$9.25 in U. S. A.; \$9.75 elsewhere.

Company \_\_\_\_\_

Address \_\_\_\_\_

City ..... State .....

By \_\_\_\_\_



# BEST THEM ALL

with

*the best of all*

## BTC 50%

A superb germicidal, bactericidal and algaeциal agent of proven effectiveness, Onyx BTC 50% has an exceptionally wide range of important and popular uses in the protection of public health, prevention of infection and increasing industrial production.

BTC 50% is a product of Onyx leadership and pioneering in the field of quaternary ammonium compounds, and therefore among the most thoroughly documented products available for the purpose.

Possessing marked wetting and penetrating action, BTC 50% is compatible with non-ionic and other cationic surfactants, is physically, chemically and bacteriologically stable in storage over considerable periods of time even in use dilutions.

In addition, BTC 50% offers the manufacturer a large number of other advantages for the production of more effective commercial sanitizing and sterilizing products. The Onyx Technical Service Representative will be glad to explain them all fully with reference to any or all applications.

BTC 50%'s unusual killing power is extensively and advantageously applied to the various sanitizing and sterilizing compounds widely used on dairy and poultry farms; in milk, meat packing and other food processing plants; in the food service industry; institutions; hospitals; laundries; sanitary facilities; transportation; paper mills; swimming pools, etc.

**ONYX**  
**OIL & CHEMICAL COMPANY**  
INDUSTRIAL DIVISION

WARREN & MORRIS STS., JERSEY CITY 2, N. J.  
CHICAGO • BOSTON • CHARLOTTE • ATLANTA

For Export: ONYX International, Jersey City 2, N. J.  
West Coast Representative: E. S. Browning Co., San Francisco, Los Angeles

# NITROPARAFFINS

# on Stream!



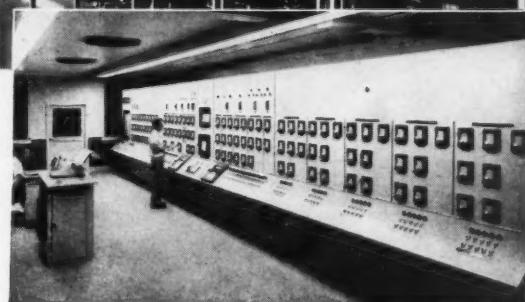
## WORLD'S FIRST COMMERCIAL NITROPARAFFIN PLANT NOW IN PRODUCTION

Shipments are now being made from Commercial Solvents Corporation's new plant at Sterlington, Louisiana. Completely designed by CSC engineers, the new plant marks a major step in the company's long-term petrochemical development. The new facilities will produce over 10 million pounds of four basic nitroparaffins — Nitromethane, Nitroethane, 1-Nitropropane, and 2-Nitropropane. In addition, the new plant will turn out multi-million pound quantities of the derivatives listed at right, many of which have achieved outstanding industrial usefulness. This unique family of chemicals opens up entirely new fields with extraordinary potential for all industry.

For full technical data and samples, write to:

**COMMERCIAL SOLVENTS CORPORATION**

260 MADISON AVENUE, NEW YORK 16, N.Y.



Control panel contains over 100 miniature recorders and controllers. A unique data reduction unit continually scans and records all operating conditions.

### BASIC NITROPARAFFINS

Nitromethane   Nitroethane   1-Nitropropane   2-Nitropropane

### NITROPARAFFIN DERIVATIVES

Alkaterges  
Aminohydroxy Compounds  
(AMP; AMPD)  
Chloronitroparaffins  
Diamines  
Hydroxylamine Salts  
(HAS; HS)  
Nitrohydroxy Compounds



**INDUSTRIAL  
CHEMICALS**

SOAP and CHEMICAL SPECIALTIES

from this simple flower comes

# PYRETHRUM

The wonder insecticide that is the most toxic to insects and the least toxic to humans and warm-blooded animals of ALL currently known insecticides.

Prentox Pyrethrum & Pyronyl Concentrates are available for:

Aerosols • Fly & Roach Sprays • Mill & Industrial Sprays  
Agricultural & Cattle Sprays • Truck Crop & Garden Insecticides  
Grain Protectants



#### Try these Prentox Pyronyl and Pyrethrum Pest-Tested Products

Pyrethrum Extract #20 • Pyrethrum Extract #100 • Pyrethrum Extract 20%  
Pyronyl #20 • Pyronyl #100 • Universal Concentrate • Pyronyl #101  
50-5 Oil and Emulsifiable Concentrate • 40-5 Concentrate • 20-8 Concentrate  
66-6 Oil and Emulsifiable Concentrate • Pyronyl 75-The Oil-Free Concentrate  
Roach Spray Concentrate • Pyrethrum Powder • Dust Concentrate

**PRENTISS DRUG & CHEMICAL CO., INC.**

110 William Street, New York 38, N. Y. • 9 South Clinton Street, Chicago 6, Illinois  
DETROIT • SAN FRANCISCO • LOS ANGELES • TORONTO • MONTREAL

# ...about chemical specialties



## MODERN CHEMICAL SPECIALTIES

by Milton A. Lesser

**T**HIS 514-page text covers the formulation, manufacture, and use of polishes, cleansers, detergents, floor-care, leather-care, and textile products, industrial, household, and many other allied chemical specialties. Each of the 42 chapters deals with a different specialty and includes formulas and manufacturing methods for that specialty. The manufacturer, marketer, chemist and production man will find this book of great value.

## SANITARY CHEMICALS

by Leonard Schwarcz

**A** COMPLETELY revised 576 page book which includes: bacteria and disease, principles of disinfection, disinfectants (6 chapters), deodorants, man versus insects, household and industrial insecticides (9 chapters), rodenticides, floor waxes and floor care, sweeping compounds, potash soaps, detergents and cleansers (4 chapters), labeling and packaging, laws and regulations explained.

A practical book on formulation, properties, testing, history and effective use . . . full coverage of labeling (with specimen), laws, regulations, etc. . . . for every executive, salesman, plant man and chemist . . . in plain understandable language.



Send Check with Order

Add 3% sales tax if in New York City

**MAC NAIR-DORLAND CO.  
254 West 31st St., New York 1, N. Y.**

Enclosed is our check for \$\_\_\_\_\_ Please send the following book(s):  
\_\_\_\_ Sanitary Chemicals, Price \$8.00 in U.S.A.; \$8.50 elsewhere.  
\_\_\_\_ Modern Chemical Specialties, Price \$7.25 in U.S.A.; \$7.75 elsewhere.

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

By \_\_\_\_\_

# "WHAT'S IN IT for ME?"

## ... asked J. EDMUND GHEE



*Salesman . . .* Gloss Grip is the best and there is always a demand for the best.

*J. Ghee . . .* That's what you say, buddy. I've got a few lines of floor wax in stock now. They are getting harder to push every day. The insurance companies are complaining they're not safe.

*Salesman . . .* That's why Gloss Grip is the product you need. It's anti-slip—it's safe—it has the recommendation of leading insurance companies.

*J. Ghee . . .* You still haven't answered my question. WHAT'S IN IT FOR ME?

## *Salesman . . .* HERE, MR. GHEE, IS WHAT'S IN IT FOR YOU!

You will sell more Gloss Grip than ordinary floor waxes because it meets the demand of your customers for beauty *plus* safety. And you will make more from those sales because:

Gloss Grip quality commands a higher price.

Gloss Grip acceptance has enabled us to expand manufacturing facilities and thus reduce our selling price to you.

Your volume will grow because demand for this quality product is increasing every day . . . THAT'S WHAT'S IN IT FOR YOU, MR. GHEE!

*J. Ghee . . .* Buddy, I may sound like my own profits are my only interest. That isn't true. It is my major goal, but I know the only way to gain in profits is to satisfy my customers. If I can make more profit and do that too . . . I'll buy.

*Salesman . . .* Gloss Grip can do that.

*J. Ghee . . .* Fine, send me a price sheet and some literature on the subject and if what you say is true . . . you've made a sale, buddy.



Federal Varnish will send you the same material as it sent to J. Edmund Ghee. Write today to . . .



2841 S. Ashland Ave., Chicago 8, Ill. *The Pioneers in Floor Sealers - Finishes and Waxes*

AT LAST! something new in a para odor

# PARASPICE

remarkably fine spice fragrance for  
para blocks and crystals

### IT'S OUT OF THIS WORLD!

Here is something completely new and different in a Para fragrance. PARASPICE provides effective coverage of the unpleasant Para odor and, at the same time, imparts a really attractive Spice fragrance that lasts through the entire life of the Para block and crystal.

Amazingly inexpensive, too! 8 ounces of PARASPICE reodorizes 100 pounds of Para at a cost of merely \$1.50. Convince yourself! Write or phone today for a trial pound for your own tests. \$3.00 per pound. (lower prices in larger quantities).

REMEMBER: Our specialization in perfume odors exclusively assures you of top quality products at lowest possible prices.



**AROMATIC PRODUCTS, Incorporated** 15 EAST 30th STREET, NEW YORK 16  
CHICAGO • DALLAS • MEMPHIS • PITTSBURGH • LOS ANGELES • BOSTON



IS YOUR AEROSOL FORMULATION

HIGHLY EFFECTIVE

against . . .

ROACHES AND FLIES

and *SAFE TO USE in the KITCHEN*

"NEW IMPROVED"

SULFOXIDE

*the SUPERIOR Synergist for  
Pyrethrum is your ANSWER*

REMEMBER -  
NO NASAL IRRITATION  
WITH NEW IMPROVED  
SULFOXIDE

For Further Information  
WRITE  
PHONE  
or WIRE



S. B. PENICK & COMPANY

50 Church Street  
New York 8, New York

735 West Division Street  
Chicago 10, Illinois



A MESSAGE OF INTEREST  
TO AEROSOL MANUFACTURERS

# How Du Pont helped make



# aerosol cologne spray a success

**...and how you can use the same technical facilities to perfect your aerosol product**

Aerosol colognes are just what women are waiting for. No more fuss, mess or waste. Simply the push of a button and the easy aerosol way does the rest.

But there were problems to be solved before aerosol colognes in glass bottles could go on the market. Pressures in glass cannot legally exceed 25 pounds per square inch gauge at 70°F.

*Yet the aerosol industry had relatively little information on aerosol mixtures giving good sprays below 25 pounds.*

Du Pont's "Kinetic" Laboratory went to work collecting data on the pressure, spray characteristics and solubilities of alcohol-propellant systems. Intensive research by Du Pont chemists laid the groundwork for successful production of glass-contained aerosol colognes . . . and provided the aerosol industry with a ready reference source of information on the subject.

Whatever problems you face in the production of aerosols, Du Pont can help you. Our chemists have years of experience in aerosol research and development and extensive technical facilities. We can offer technical assistance with formulation and production problems and market research data to help you set and achieve sales objectives.

Of course, the right propellant is vital to the success of any aerosol. "Freon" propellents satisfy pressure, compatibility, particle size and other requirements. "Freon" propellents are nonflammable, nonexplosive, virtually nontoxic.

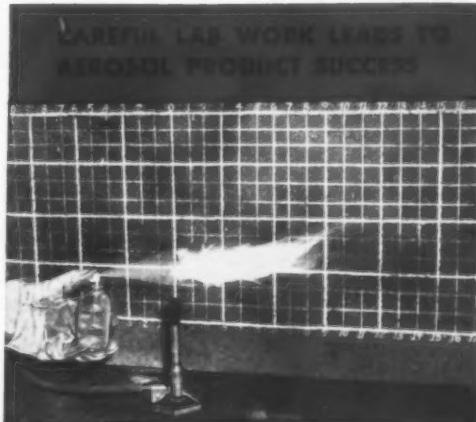
Find out how you can ensure the success of your aerosol by consulting Du Pont. Write today to E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division 1210, Wilmington 98, Delaware.

**KINETIC**  
REG. U. S. PAT. OFF.  
**FREON**  
SAFE PROPELLENTS

"Freon" is Du Pont's registered trade-mark  
for its fluorinated hydrocarbon propellents

**DU PONT**  
REG. U. S. PAT. OFF.

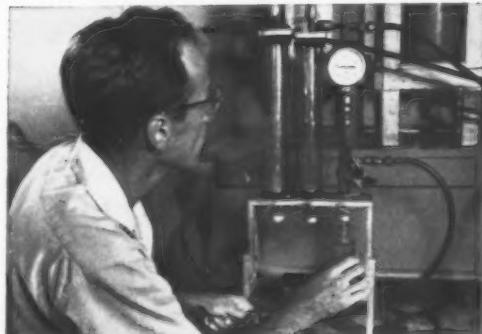
BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY



**FLAMMABILITY** of a formulation must be tested (above). Colognes, by their nature, contain appreciable quantities of alcohol, and the formulation must be nonflammable if packaged in bottles.



**COMPATIBILITY** is the first requirement in formulating aerosol colognes. Solutions of different active ingredients and "Freon" propellents are tested in pressure tubes.



**PRESSURE** is measured to make sure it's below maximum limit for glass. If pressure is too low, cologne will not spray properly.

# Out On A Limb Over Cleaners?



Our little feathered friend can fly so he doesn't mind.

You can get back on the ground and your cleaner profits will fly high with

## B-M SPECIAL CLEANER

*Cleans!!*

Marble Floors

Linoleum Floors

Removes Wax Film

Tile Floors

Venetian Blinds

\*

Rubber Floors

Painted Walls

Removes Rubber Burns

Terrazza Floors

Woodwork

\*

Asphalt Tile Floors

Glass

Degreasers



# Glass Aerosols for Antiseptics

By Dr. Francis A. Mina\*

Technical Director, Zonite Products Corp.

New Brunswick, N. J.

**S**INCE the introduction to the general public of the original "bug bomb" in September 1945, we have witnessed a steady progression of improvements and new developments which have made it possible to consider practical the marketing of almost any type of product utilizing the various "aerosol" principles.

Here it should be pointed out that while the scientific definition of an aerosol is a *suspension in air or gas of fine solid or liquid particles*, for the purpose of this presentation we shall use the now generally accepted meaning of an aerosol as being any product dispensed from a container by means of self-contained pressure evolved from a liquefied gas.

The various developments contributing to the utilization of the "aerosol" principles for an ever-increasing number of products, of course, began with the introduction of the original high pressure insecticide bombs based on the work of Goodhue and Sullivan.<sup>(1)</sup> Because of the high pressures involved, approximately 70 p.s.i.g. at ordinary room temperature, expensive heavy gauge steel containers were required.

In 1947, the aerosol industry "came into its own" with the introduction of "low-pressure" aerosols. Because the pressures were substantially lower (40 p.s.i.g. as compared with 70 p.s.i.g. for the earlier high pressure bombs) it was practi-

cal to use lighter weight containers such as disposable beer-type cans.

As a result of the lower cost, lighter weight and less costly packaging, many new types of products were introduced successfully in the aerosol field. Such products, however, were restricted to metal containers, as the relatively high pressures involved continued to preclude the use of glass containers.

In 1950, a new form of pressurized product was introduced—"aerosol" shave cream and shampoo—the latter lamentably, because of severe corrosion problems. Foam products also utilize pressures of approximately 35 to 40 p.s.i.g. at ordinary room temperature.

The general utilization of glass as containers for aerosols was made practical by the introduction of the three-phase system for dispensing aqueous-based products in 1952, followed by the ultra-low pressure packaging of alcohol-based products during the latter part of 1953.

However, because of the acute shortage of propellant, widespread marketing of glass aerosols was not accomplished until the latter part of last year.

Both the three-phase system and the ultra-low pressure system utilize pressures of only approximately 15 p.s.i.g. and, therefore, have made it practical to market safely and successfully an unlimited number of new products in corrosion-free glass and other frangible containers.

In this method, the propellant

does not dissolve or emulsify in the product; rather, it remains at the bottom of the container in the form of a liquid pool or reservoir. A portion of the propellant boils off and bubbles through the product, forming a pressurized vapor phase in the top portion of the container. When the valve is operated, this pressurized vapor phase forces the liquid product which fills the bulk of the container up through the dip tube and out of the valve. The boilstones dispersed throughout the propellant reservoir promote a uniform rate of boiling of the propellant that permits steady spraying of the product. A novel feature of the three-phase system is that 100 percent product is dispensed, undiluted by propellant. A specially designed spray head breaks up the liquid product into the desired spray pattern and also accommodates filling problems. As the product is dispensed, the liquid propellant reservoir gradually vaporizes, but remains in the container until all of the product has been discharged.

The three-phase system is particularly well adapted for use of water-based products designed for surface application where an extremely fine spray is not required, such as antiseptics, disinfectants and sanitizers for treatment of wounds, cleaning hospital walls and utensils, bathroom floors, enamel and linoleum surfaces, etc. Since the propellant does not dissolve in the product and 100 percent product is dispensed, the degree of fineness of spray depends upon mechanical dis-

\*Paper presented before 41st midyear meeting, Chemical Specialties Manufacturers Assn., Chicago, May 17, 1955.  
(1) U. S. Patent 2,321,028.

ruption of the liquid by the spray head. Since the spray is not a fine mist as characterized by conventional aerosols, the product is deposited on the desired surface with practically no loss into the atmosphere due to rapid vaporization. This is a particularly important feature to be considered for such agents as may present toxicity hazards if inhaled in the nebulized form of conventional aerosol mists.

Furthermore, since the product contains practically no dissolved propellant, the three-phase system is ideally suited for such antiseptics and other agents designed for use on living tissue, and especially for such delicate tissue as mucous membranes. Application of antiseptics, for example, can be made without the risk of possible irritation due to propellant or super-cooling effect of the relatively lower boiling fractions found in conventional aerosols.

#### **Ultra-Low Pressure System**

**I**N those applications where the active ingredient is alcohol soluble and/or where a mist-like spray is desired, then the ultra-low pressure system may be utilized.

This system differs from the conventional aerosol system in that the propellant is dissolved in the product, and generally is limited to those products where the volume of propellant does not exceed that of the remaining components.

While conventional aerosols consist mostly of propellant in which a relatively small portion of product is dissolved, the ultra-low pressure package is composed mainly of product in which is dissolved a relatively small proportion of propellant. As a result of careful control of the proportions of the various components, the propellant rapidly boils out of the sprayed drop, exploding it into fine particles in the form of a mist. Since this system produces fine atomization of product at pressures of 15 pounds (p.s.i.g.) and lower, the introduction of the ultra-low pressure system has made it practical to package alcohol-based aerosol products in glass and other

types of frangible containers.

With careful control of the proportions of alcohol, water and propellant, it is possible to produce a spray of almost any desired degree of fineness using conventional spray heads.

Where a product is desired for space applications, such as space deodorization, etc., a modification of the ultra-low pressure system is recommended. In this method, the amount of propellant is increased substantially so that it forms a major fraction of the product. In this system, the atomization is almost instantaneous as the spray leaves the valve orifice, and a highly nebulized atomization is obtainable. It should be cautioned, however, that due to the relatively large proportion of propellant, in such instances it is advisable to provide suitable protection to the bottle, such as a fiberboard container or plastic envelope, both of which are currently in use. Because of the rapid vaporization of product in this type of spray, it is not recommended for surface application, particularly on living tissue, because of its unpleasant super-cooling effect.

Since the three-phase and the ultra-low pressure systems employ, respectively, water and aqueous solutions of aliphatic alcohols, both of which are highly desirable media for dispensing practically all the known antiseptics and disinfectants, it follows logically that such sanitizing agents be considered for push-button warfare against germs.

In our laboratories, a number of such agents have been, and continue to be, under test. To date, the results appear most promising. An antiseptic soap solution, for example, which has been shelf-tested for approximately two years, has shown remarkable stability.

In one series of tests, duplicate solutions of representative types of antiseptics and disinfectants were packaged in either the three-phase or ultra-low pressure systems, pressurized with dichlorotetrafluoroethane ("Freon 114"), and stored for two weeks at 130°F (54°C), and at room temperature. Replicate sam-

ples, without propellant, were similarly stored and served as controls.

After 14 days, the hydrogen ion concentration of each sample was measured on a Beckman pH Meter (Model G.). Bacteriological tests were also conducted, using the paper disc assay method of Vincent & Vincent, in which special filter paper discs 13 mm. in diameter are used. The test medium was A.O.A.C. agar seeded with *Staphylococcus aureus* 209.

Readings of zones of inhibition were recorded following 24 hours of incubation at 37°C. The inhibition zones are recorded as total diameters including the 13 mm. assay disc and zone of partial inhibition, which is given in parenthesis. For example: 39(10) indicates a diameter of 39 mm. zone of inhibition, made up of a diameter of 29 mm. total inhibition and an additional zone of 10 mm. of partial inhibition.

#### **Results**

**T**HE results (Table 1) show that that there were no significant changes in either the hydrogen ion concentration, or effectiveness vs. bacteria, of the various antiseptic and disinfectant solutions tested.

The results presented above are indicative rather than conclusive. However, it has been our experience that accelerated tests conducted at a temperature of 130°F usually give good indication of product stability within two weeks—a considerably longer period of time being required for evaluation of possible corrosive effects on containers. Since in all these tests, corrosion is obviated by the use of glass containers and non-corrosive valves, it is reasonable to conclude that the results reported herein show considerable promise.

(Actually, further tests carried out subsequent to preparation of this manuscript, substantiate the reported results).

Within the span of 10 years we have seen the introduction of aerosols, together with consider-

**Chlorine Compounds Chemical Tests  
(14 Days)**

Name	Concentration	Phase	*Test Sample	pH		Available Chlorine	
				Room Temp.	130 F	Room Temp.	130 F
Azochloramid	1:3300 in water	C	6.99	7.04	.0076	.0076	
		P	6.85	7.02	.0076	.0000	
Zonite	Full strength	3	C	10.73	10.68	10.87	9.48
		P	10.65	10.49	10.77	9.67	
"	1:5 in water	3	C	10.18	10.15	2.21	2.10
"		P	9.92	9.70	2.10	2.10	
"	1:30 in water	3	C	9.30	9.45	0.37	0.37
		P	8.77	8.52	0.37	0.30	

\* C—Control, no propellant. P—Pressurized with Freon #114.

able changes and advancements in push-button convenience to the public. During this period, the "glass aerosol" was born, based on safe and

practical methods for dispensing products utilizing ultra-low pressures.

Various household and cos-

metic products currently are being marketed in glass aerosols.

The numerous advantages of ultra-low pressure aerosols in glass warrant serious consideration of their utilization for such products as antiseptics and disinfectants.

Some of the obvious advantages are:

1. elimination of corrosion
2. ease of application, particularly for normally inaccessible surfaces.
3. product stability due to exclusion of atmospheric oxygen
4. elimination of contact with potent but irritating and sensitizing chemicals if used in conventional

(Turn to Page 197)

**Table I. Chemical and Bacteriological Test (14 Days)**

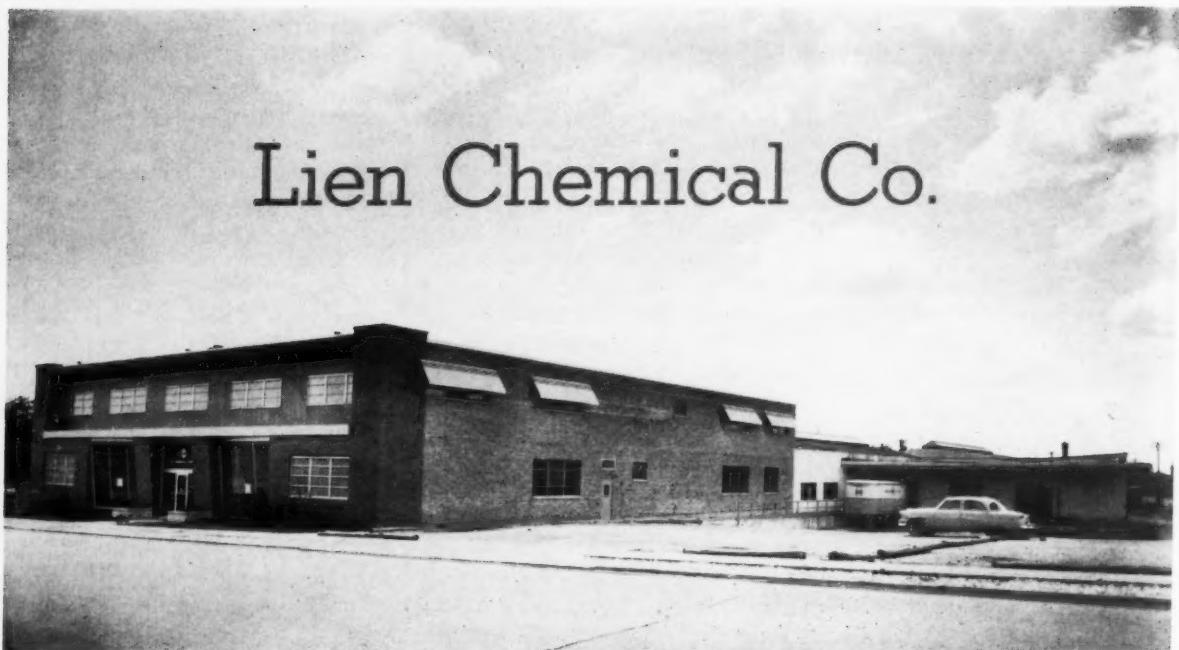
Name	Concentration	Phase	*Test Sample	pH		Inhibition Zone **(mm)	
				Room Temp.	130 F	Room Temp.	130 F
Azochloramid	1:3300 in water	3	C	6.99	7.04	0	0
			P	6.85	7.02	0	0
Cepacol	Full strength	3	C	7.46	7.40	40(25)	37(20)
			P	7.48	7.44	40(13)	30(15)
G-11	0.5% in 90% ethanol	2	C	4.62	4.70	32	35
			P	4.60	4.72	31	35
G-4	0.5% in 90% ethanol	2	C	6.60	6.85	34(9)	34(7)
			P	6.43	6.95	36(10)	32(7)
Hyamine 1622	0.1% in water	3	C	7.15	7.21	29	22
			P	7.07	7.29	27	19
Hyamine 10-X	0.1% in water	3	C	7.68	7.32	18	20
			P	7.39	7.22	19	19
Merthiolate	1:1000 tincture	3	C	9.52	9.53	39(10)	37(10)
			P	9.48	9.55	39(11)	38(11)
Metaphen	1:200 tincture	3	C	10.51	10.42	35(7)	36(9)
			P	10.72	10.40	35(8)	38(9)
Phenol	1:800 in water	3	C	7.03	7.22	0	0
			P	7.10	7.23	0	0
Zephiran Chloride	1:1000 tincture	3	C	8.27	8.05	30(10)	29(9)
			P	7.93	7.92	31(10)	32(10)
"	1:1000 Aq. in water	3	C	7.38	7.10	29(11)	24(7)
"			P	6.66	6.95	29(12)	24(10)
"	1:1000 conc. in 90% ethanol	2	C	7.39	7.35	31(10)	29(9)
			P	7.56	7.46	28(9)	30(8)
Zonite	Full strength	3	C	10.73	10.68	18	16.5
			P	10.65	10.49	18	16.0
"	1:5 in water	3	C	10.18	10.15	14	13.5
"			P	9.92	9.70	14	13.5
"	1:30 in water	3	C	9.30	9.45	0	0
			P	8.77	8.52	0	0

\* C—Control, no propellant. P—Pressurized with Freon #114.

\*\* Includes 13mm assay disc and zone of partial inhibition, given in ( ) where applicable.

Note: these bacteriological tests were designed to indicate only the degree of stability of each product in the presence of propellant rather than to demonstrate comparative antiseptic values of products tested.

# Lien Chemical Co.



Newest and largest addition to its facilities at 9292 W. Grand Ave., Franklin Park, Ill., is this 25,000 square foot building, the dedication of which was timed to coincide with Lien's

25th anniversary. Modern building houses offices, two display rooms, chemical laboratory and recreation and conference rooms.

**L**IEN CHEMICAL CO., Franklin Park, Ill., is a classic example of how a business, started in a humble way, can grow in the U. S. and become a leader in its field. Many established corporations celebrate with pride the fact that they have been in business 50, 75 or 100 years or more. Lien is younger and probably smaller than these, but in the 25 years since the founding of the company in September, 1929, has shown a steady and healthy growth which has carried it near the top of the sanitation field. To mark its 25th anniversary, Lien recently celebrated the formal opening of the newest and largest addition to its facilities, at 9292 W. Grand Ave., Franklin Park, Ill., a 25,000 square foot building housing offices, chemical laboratory, two display rooms and recreation and conference rooms.

The spark plug behind the company is Carl Lien, founder and president. Prior to forming his own company he had been selling sanitary specialties to office buildings, other commercial establishments and industrial plants. The year 1929, ushering in the Great Depression,

**Founded on the eve of the depression, 25 years ago, with a single employee, the firm now has 250 employees and sales of over two million dollars annually**

was not the most propitious time to be selling items of this kind, at least not in the latter part of the year. In addition, the items Mr. Lien was selling were of the "one-shot" variety. Mr. Lien felt that he

would be on sounder ground handling merchandise that was consumed more rapidly and thus offered more repeat business. To establish a business of his own in the depression years and with limited capital took

Carl B. Lien, president and founder of Lien Chemical Co., at his desk in striking modern office in newest and largest building.



## By E. G. Thomssen

a lot of courage. But Carl Lien had the necessary fortitude and persistence that resulted in slow but certain progress.

The business got its start in a residence at 5030 Grace St., Chicago. Disinfectants, cleaners, insecticides and deodorant blocks were handled originally. Mr. Lien called on the same type of companies which had previously bought his other products. In two years' time, even though the depression deepened, the business grew. This necessitated getting larger quarters, this time in a small store on Cicero Ave. in Chicago. Operations were carried on there for five years. In 1937, a medium size building was acquired on N. Avondale Ave. Here, for the next 12 years the company's volume showed a steady increase and many new employees were added.

By 1949 the Avondale plant, plus several small local warehouses were found to be too small to handle the growing volume of Lien Chemical Co. After an extensive search a more modern and larger plant was found and purchased in Franklin Park, Ill., a suburb of Chicago. This provided the company with two and one-half acres of land on which to expand further. A private rail siding provides space for six railroad cars at any time. However, as there still were not sufficient accom-



Part of the fleet of trucks maintained by Lien Chemical Co. for its sanitary supply, service and exterminating operations.

modations for all the offices and sales staffs another building (a store) was rented near the new plant which was utilized until the Franklin Park plant could be expanded.

The company's volume has grown considerably in the past five years, necessitating four additions in that period. The first new building consisted of a large garage for housing six trucks. A loading dock to accommodate six trucks at one time, plus 5000 square feet of shipping and receiving warehouse space were added to the main building.

In 1952, a new warehouse addition of approximately 15,000 square feet was erected. In June of this year a very modern building was completed. This 25,000 square foot addition provides space for new offices, the chemical laboratory, two display rooms, recreation and conference rooms. The entire plant is

now equipped with devices to eliminate waste time in inter-departmental contacts. An elaborate internal communication system, featuring pneumatic tube deliveries is included. All offices are equipped with modern, mica-top desks. A mechanized accounting system, the latest type of addressing machines and other modern office machines and equipment simplify and speed up handling of office details.

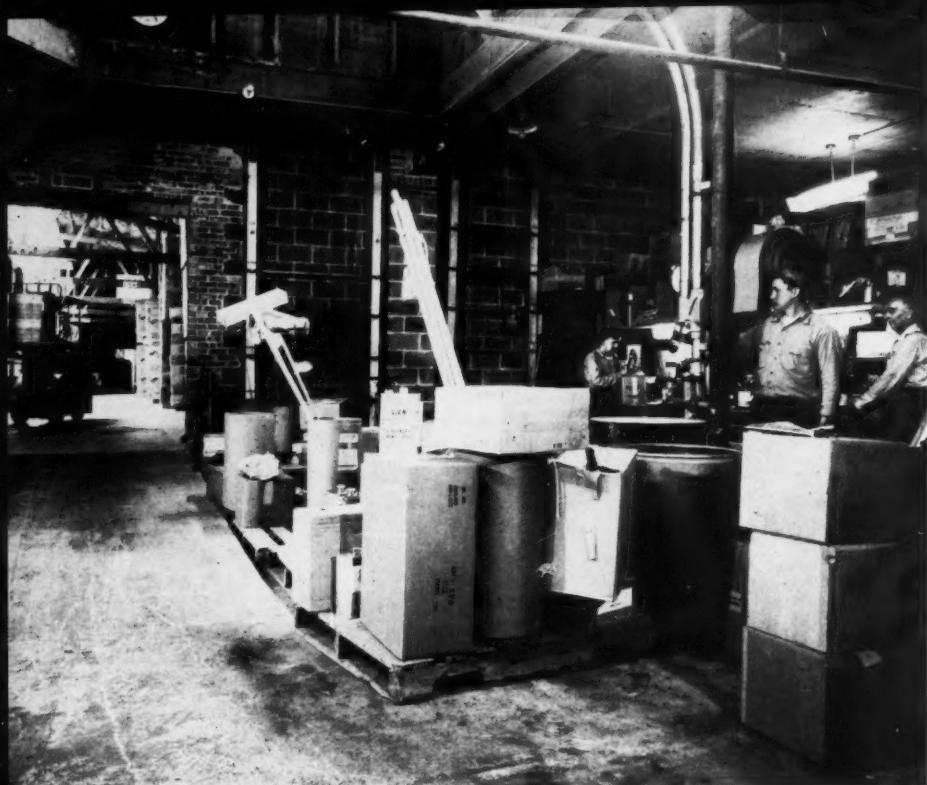
The manufacturing space has been rearranged to operate more efficiently. Dry mixing operations account for a large part of Lien's production. This part of the plant is equipped with Marion mixers, several grinding mills and dry filling equipment. Deodorant blocks are made with the best machinery obtainable. A large new tabletting press was installed recently to step up production of para blocks. Liquid preparations are made mostly in stainless steel tanks and filling operations are performed with the latest type automatic devices. A newly equipped control and analytical laboratory is included in the new building.

The warehouse is a one-story monitor type building. All raw materials, finished products and appliances are stored on pallets. Battery powered fork trucks move the pallets to any desired location. A trained warehouseman is employed and supervises storage details, which improves the handling of the large variety of products carried.

Lien's sales volume has more

One of two new display rooms in the newly opened Lien building. Lien manufactures and distributes wide range of sanitary supplies.





**Captions, top to bottom**

Part of shipping department at Lien Chemical Co. Modern devices speed shipments from scientifically set up warehouse.

C. J. Tietima, chief chemist for Lien, at his desk in company's research laboratory.

Sanitation service crew which handles an important part of Lien's business.

than doubled within the last four years. Last year sales ran well over the two million dollar mark. This year sales are up about 15 percent over 1954. This is an excellent record considering that the firm's operating area is confined within a radius of one hundred miles of Chicago.

Lien Chemical Co. operates three divisions. The bulk of the business consists of sanitary supplies and equipment. Second in importance, from the standpoint of volume, is washroom sanitation service, and third is the exterminating phase of the business. Lien manufactures and jobs a large variety of items. Several of the appliances it handles are covered by Lien patents.

Most of the key employees have grown up with the Lien organization. Officers and executives include: Carl B. Lien, president; D. D. Clark, executive vice-president; Gerhardt Haase, treasurer; Orpha Lien, secretary; Charles P. Quinn, general manager; Albin Szybeko, general sales manager; Charles Kirkpatrick, manager, service department; Albert Stahnke, manager, wholesale division; William Ullrich, advertising manager; Noel O'Reilly, purchasing agent, and C. J. Tietima, chief chemist.

In addition to his duties as head of a large and growing sanitation and supply business, Mr. Lien has taken time out to serve actively in the National Sanitary Supply Association. He was president of N.S.S.A. in 1949-50.

Since the company's founding, the familiar slogan, "Keep Clean With Lien," has become a famous trade mark. It appears on

(Turn to Page 221)

*Radioactive method to determine*

## **Wearing Qualities of Floor Waxes**

**By Daniel T. Haworth, John R. Koch, John G. Surak**

Marquette University, Milwaukee, Wis.

**T**HE use of radioactive tracers provides a unique method for the determination of the wearing qualities of aqueous and non-aqueous emulsion waxes. These emulsions can be made radioactive by allowing the wax component of the emulsion to be irradiated in a reactor. The carbon atoms of the wax are converted to a radioactive isotope by the neutrons produced in the reactor. The C<sup>14</sup> wax which is produced can then be made into an emulsion. The radioactive C<sup>14</sup> decays by emitting alpha ( $\alpha$ ) particles which are double ionized helium atoms. The alpha particles are best detected by a flow counter which uses elaborate equipment and must be operated by highly skilled radiochemists. Because of the method of detection and the health hazards involved in handling C<sup>14</sup>, this method may be considered undesirable. The cost of this radiation service may also prevent smaller companies from using this technique.

An alternate method which can be performed by technicians is the incorporation of a "hot" constituent into the wax emulsion itself. This method involves the use of cobalt-60 which emits gamma rays as it decays. These gamma rays are easily detected by an end-window Geiger counter which is attached to a scaler unit. The scaler unit records the amount of radiation per unit time. By keeping the amount of wax applied to the surface a constant and determining the activity per unit area, the weight of wax per unit area can easily be

found. The weight of the wax per count of activity can also be determined. For example, if two milligrams of wax are applied uniformly to the surface of four square inches and if the activity of the surface was found to be 500 counts per minute, then the following relationships can be deducted:

$$\begin{aligned} & 0.5 \text{ mg of wax/sq. inch} \\ & 125 \text{ c/m per sq. inch} \\ & 250 \text{ c/m per mg. of wax} \\ & 4 \times 10^{-3} \text{ mg. of wax per c/m} \end{aligned}$$

Now if this surface is put through a specific test and the activity of the sample is measured at various intervals, then the loss in weight of wax can easily be computed.

However, since radioactivity follows the inverse square law, the position of the surface to be counted must remain the same for all similar samples. By maintaining the same geometry for all samples a correlation of results can easily be made.

The use of cobalt-60 as the tracer is unique in that its half-life, that is, the time for the activity to decay by one-half, is quite long—5.3 years. No corrections for decay are necessary over short periods of time.

Cobalt-60 can be obtained from Atomic Energy Commission in various amounts. Approximately one to three millicuries will be sufficient to perform many types of tests. A millicurie is the amount of radiation emanating at the rate of  $3.7 \times 10^{10}$  counts per second. The cobalt-60 can be obtained in the form of a salt such as Co<sup>60</sup>Cl<sub>2</sub>. The sample obtained from the A. E. C. should be diluted to one liter with

water. Depending on the amount of activity received, a larger dilution may be necessary.

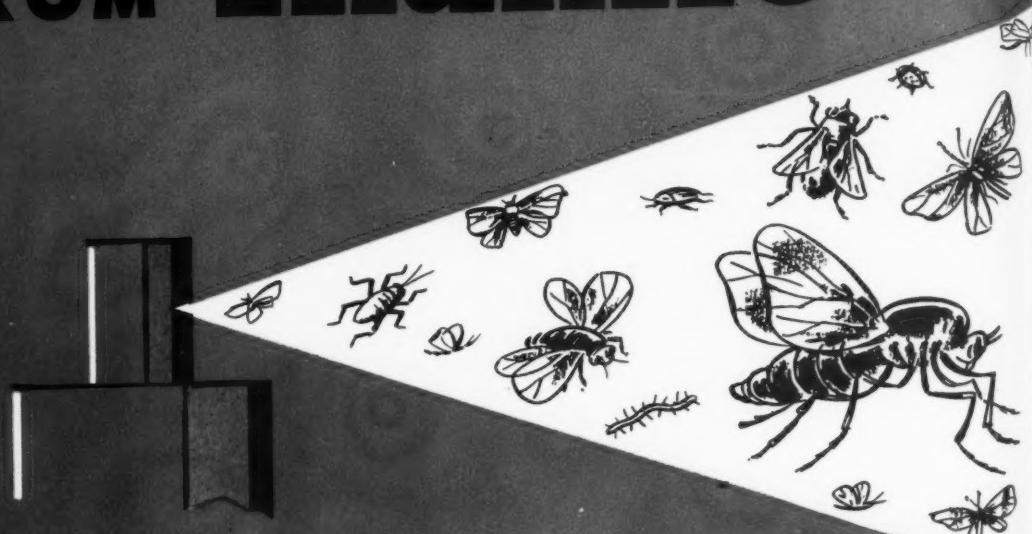
To floor waxes of the water emulsion or self polishing variety one or two cubic centimeters of the diluted sample can be added to 1000 cc of the emulsion. The activity will be uniformly distributed throughout the wax emulsion. This can easily be determined by taking aliquot samples from the emulsion and measuring the activity with the G-M tube.

Testing non-aqueous wax emulsions, it was found that cobalt-60 stearate could be added to such waxes with uniform distribution. The procedure for making cobalt-60 stearate is as follows: Dilution is important; use sufficient water so that the resulting soap formed by the reaction of four grams of caustic (dry flake) and twenty-five grams of stearic acid is a three to four percent soap solution. Heat this solution to 160°-180°F. Cobaltous chloride (10.0 grams) is dissolved in 300cc of Co<sup>60</sup>Cl<sub>2</sub> (0.50 millicuries). The non radioactive CoCl<sub>2</sub> acts as a carrier and assists in precipitating out the cobalt-60. The cobalt solution is slowly added to the soap solution with agitation, thus precipitating out the cobalt soap. The soap is filtered, washed with water and dried at 140°F.

The cobalt-60 stearate can be added to the non-aqueous emulsion in the ratio of 0.5-0.75 grams/-100cc. The amount of cobalt-60 stearate added will depend on the

(Turn to Page 197)

# THERE IS NO ESCAPE FROM thanite®

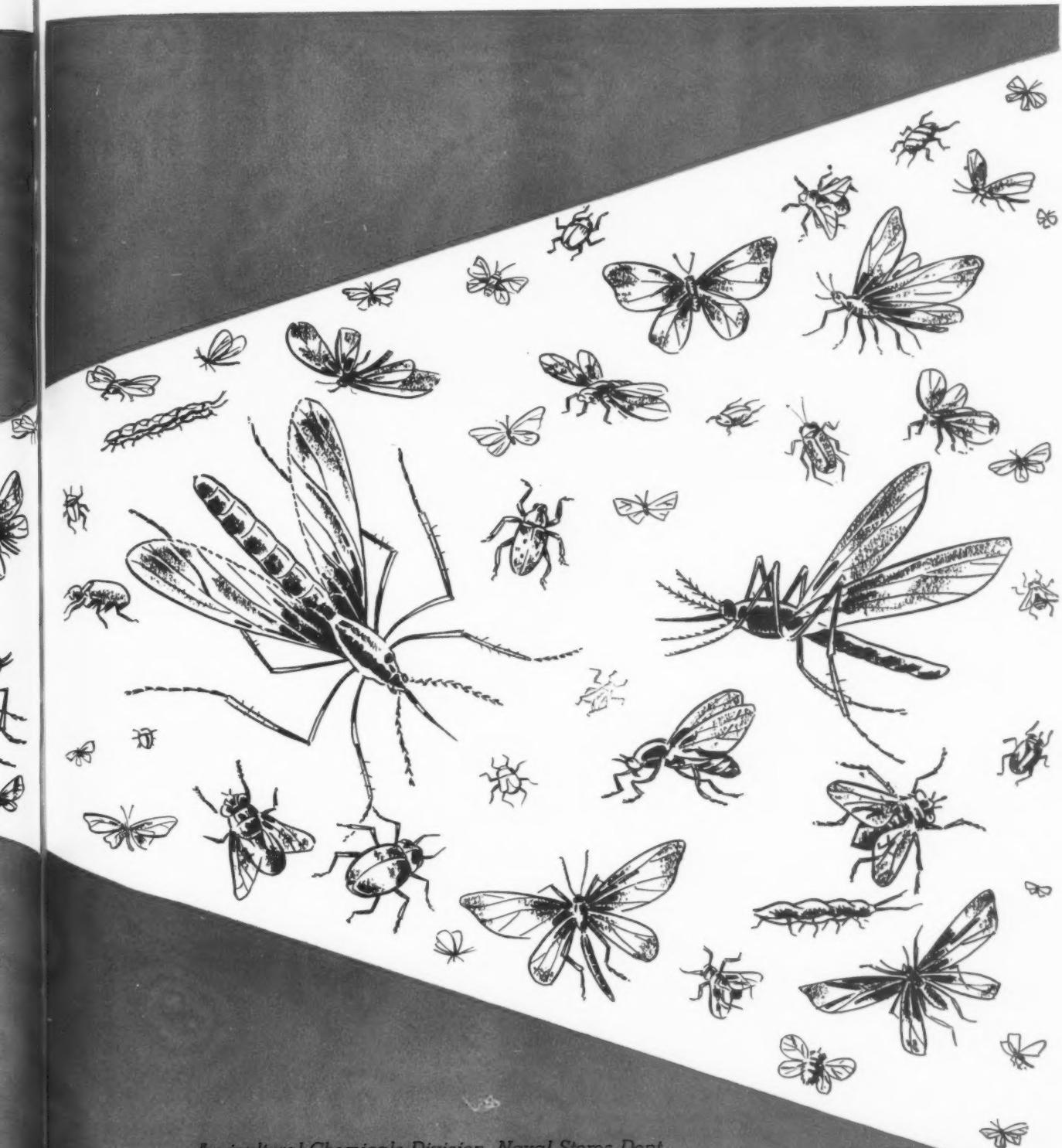


When Thanite is included in any formulation, mosquitoes and flies can't climb above the fog or mist and "wait it out." Thanite's quick knockdown makes them stay put and assures maximum kill. That's one good reason why so many pest control experts add two to four percent Thanite to DDT and other residuals.

In household sprays and aerosols, Thanite can partially replace higher costing ingredients while still providing quick knockdown and high kill. As little as two percent Thanite in household sprays and one percent in aerosols will provide maximum efficiency and economy. Technical data on the properties and uses of Thanite is available by writing to Hercules.



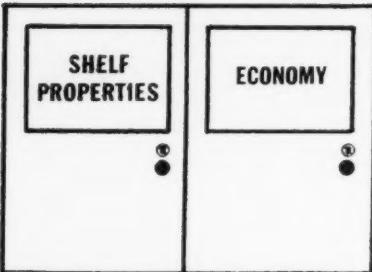
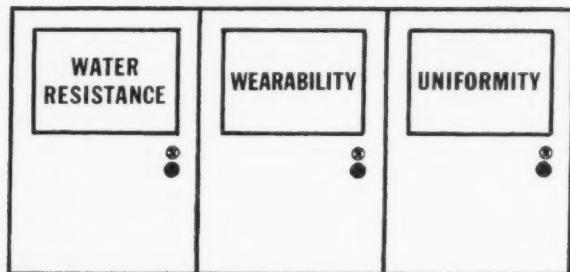
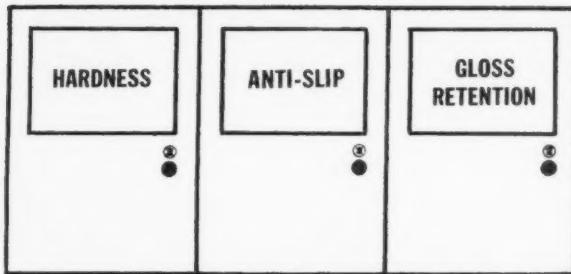
HERCULES POWDER COMPANY



Agricultural Chemicals Division, Naval Stores Dept.

HERCULES POWDER COMPANY

INCORPORATED  
961 Market St., Wilmington 99, Del.



## MASTER KEY to sales appeals

*for no-rub liquid polishes*

The ideal resin for a liquid wax emulsion should not enhance one or two or three properties your customers want, at the expense of others.

So, over a period of years, Durez has developed a group of resins that have opened the doors to *improvement in every respect*.

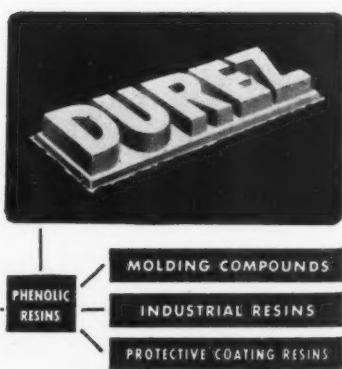
We'd like to show you what this can mean in the quality of your products. You'll find the cost factor very attractive, too. Whether you are working with vegetable wax or mineral waxes, or both, it will pay you to talk over formulations with us. Why not take advantage of our many years of specialized experience?

**DUREZ PLASTICS DIVISION**  
HOOKER ELECTROCHEMICAL COMPANY  
410 WALCK ROAD, NORTH TONAWANDA, NEW YORK

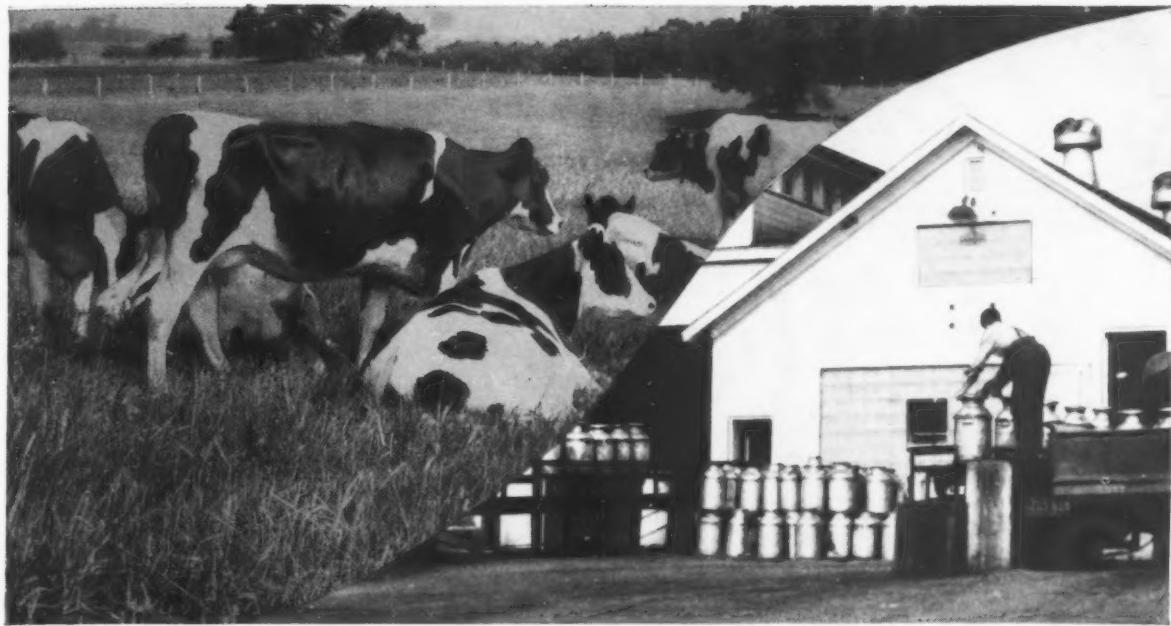
### WHICH SET-UP IS YOURS ?

**HIGH MELT.** Durez 219 (135° C.) is emulsifiable and compatible with vegetable and mineral waxes. Durez 225 is even higher melting, and produces harder and tougher films. The hardening properties of these resins can be be to particular advantage with oxidized micro-crystalline waxes.

**LOW MELT.** For the convenience of manufacturers using steam-jacketed kettles, Durez resins of the high melt types are furnished in modified form with a melting point suitable for this type of equipment. These resins — Durez 13560 and Durez 14140 — melt at approximately 60° C.



**PHENOLIC RESINS THAT FIT  
LIQUID POLISHES**  
*for the new era of competition*



## *Sell dairymen EXTRA MILK PRODUCTION with CRAG fly repellent . . .*

It's a fact—cows protected from biting flies give as much as twenty per cent more milk every day! Show dairy farmers how to realize this extra profit, and increase your profits, too, by selling formulations based on CRAG Fly Repellent.

Flies cause lower milk production in three ways: they cause cows to use energy in fighting off flies; severe attacks drain up to three ounces of blood from a cow in a single day; cows lose valuable grazing time and take in less food while under fly attacks.

Earn more profits by selling dairymen protection for their cows—take advantage of this effective repellent.

### CRAG Fly Repellent . . .

- repels all biting flies that attack cattle.
- improves the performance of pyrethrins, allethrin, and methoxychlor.
- is chemically stable and non-corrosive.
- is a coupler and solvent for many insecticidal ingredients.
- can be used in a variety of formulations.
- is safe to use on cattle.

Complete information on CRAG Fly Repellent for use on dairy or beef cattle is yours for the asking—just fill in and mail the coupon.

**CRAG**  
Trade-Mark

**AGRICULTURAL CHEMICALS**

**CARBIDE AND CARBON CHEMICALS COMPANY**

A Division of  
Union Carbide and Carbon Corporation  
30 East 42nd Street New York 17, N. Y.

"Crag" is a registered trade-mark of  
Union Carbide and Carbon Corporation.

**CARBIDE AND CARBON CHEMICALS COMPANY**  
30 East 42nd Street, New York 17, N. Y.  
Room 328, Dept. B

Please send me technical information on:

- |   |  |
|---|--|
| <input type="checkbox"/> CRAG Fly Repellent       | <input type="checkbox"/> Emulsifiable Concentrates |
| <input type="checkbox"/> Back-Rubber Concentrates | <input type="checkbox"/> Oil Sprays                |
| <input type="checkbox"/> Pressurized Sprays       |  |

I am interested in formulations for:

- |                                       |                                      |
|---------------------------------------|--------------------------------------|
| <input type="checkbox"/> Dairy Cattle | <input type="checkbox"/> Beef Cattle |
|---------------------------------------|--------------------------------------|

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

## **How Givaudan's versatile service simplifies your perfuming problems**



Suggestions and ideas in the creation or the selection of fragrances, as well as sound technical counsel are continually being provided to customers by Givaudan's experienced staff.

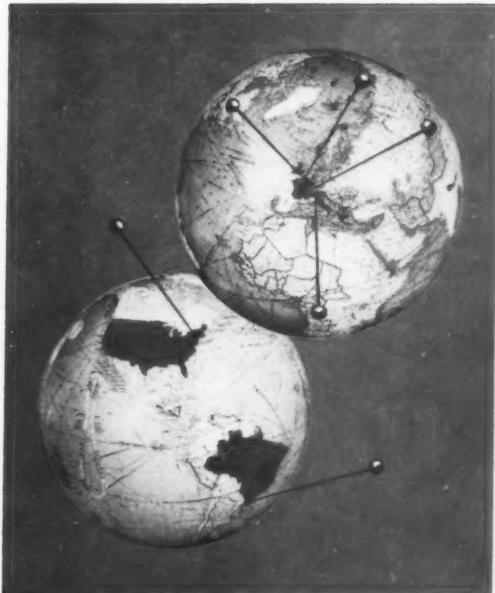


Perfuming an entire product line — a task calling for knowledge of the behavior of various aromatic combinations in various media — is an important Givaudan service.



Knowledge of consumer preferences, gained from long experience, enables Givaudan to help develop perfumes for either a "class" or a "mass" market.

Compa  
such as  
possible  
comple



ences,  
enables  
nes for  
arket.

Compatibility tests under varying conditions, such as heat, light, air and humidity make it possible for you to use Givaudan aromatics with complete confidence in their performance.

World-wide resources, with manufacturing plants in Switzerland, France, Italy, England and Brazil, enable Givaudan to supply uniform-quality materials throughout the world.

Givaudan's service laboratories work creatively with customers to develop the best fragrances quality-wise, — and the most appropriate to their lines.

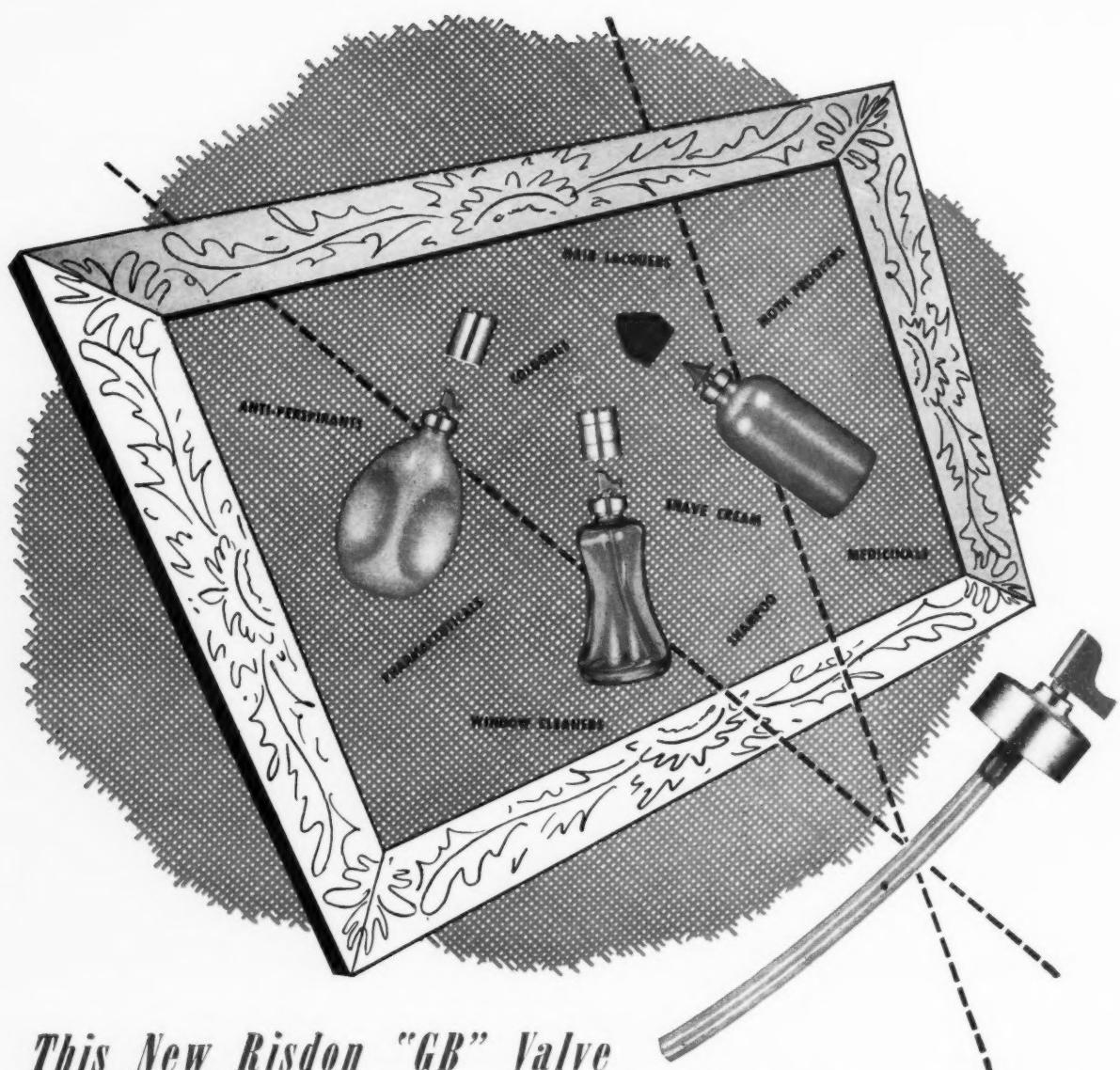
The ability to handle any fragrance problem is one of the reasons why customers find Givaudan's service both economical and efficient.



*Better perfume materials through constant research and creative ability*

**GIVAUDAN - DELAWANNA, INC.**  
330 West 42nd Street • New York 36, N.Y.

Branches: Philadelphia • Boston • Cincinnati • Detroit  
Chicago • Seattle • Los Angeles • Toronto



## *This New Risdon "GB" Valve Fits Into The Glass-Aerosol Packaging Picture*

**No Metal In Contact With Contents...**

**No Danger of Corrosion Of Valve Components**

- \* In Performance and Appearance The "GB" Valve Is Tailored To Complement Bottle-Packed Spray Products.
- \* Applicable To Both Coated and Uncoated Bottles.
- \* Vertical Spray or Horizontal Spray.
- \* Protective Caps in metal or plastic available in custom-made designs to complement the product package.

*Contact Risdon for further details on either the Model "GB" or Model JBR Valve.*

**RISDON'S JBR VALVE—KEY TO NEW AEROSOL POSSIBILITIES—NEW QUALITY PERFORMANCE AND STYLING FOR BOTH METAL AND GLASS CONTAINERS.**

Makes possible the use of wider range of propellents. Uses all standard types plus "Freon-21", "Freon-22" and methylene chloride. Sleek all-metal surface and cap enhance packages with a "quality look."

Produces a soft spray cloud of uniformly minute particles. Modified models can be supplied to give larger particle size, when required. Positive cut off.

*Write for free descriptive folder.*



THE RISDON MANUFACTURING COMPANY • Valve Division  
400 Risdon Street, Naugatuck, Conn.

## KITCHEN ODORS



A touch of the finger — and PRESTO! . . . unpleasant kitchen odors disappear like magic! One *pooft* and cabbage, fish, onion — even garbage odors vanish without a trace. Keep storage cabinets, lockers, pantries fresh as a daisy.

## REST ROOM ODORS



A SPRAYING A DAY KEEPS BAD ODORS AWAY. Glyco-Mist completely removes all disagreeable bath room and rest room odors. Toilets, urinals, washstands, all remain fresh and pleasantly scented with the magic touch of Glyco-Mist. Glyco-Mist actually destroys the putrefactive bacteria that causes unpleasant odors.

## SICK ROOM ODORS



Here Glyco-Mist is a MUST. Perfect for destroying and removing all unpleasant odors commonly associated with sickness. Perfect in sanitarians, old folks homes, cancer wards, etc. Ideal for keeping hospitals nice and fresh *all the time!*

## BASEMENT ODORS



Glyco-Mist actually prevents mold and mildew formation. Spray it freely in basements, storage cabinets, anywhere that stale air or fumes might accumulate. Prevents musty, moldy and mildew odors. Keep basements smelling as sweet and fresh as the rest of the building by using Glyco-Mist.

## HOTEL—MOTEL ODORS



Here's where Glyco-Mist really shines! All rooms are completely free of disagreeable odors and each guest will welcome the amazing fresh fragrance of Glyco-Mist . . . its apple blossom fragrance is so natural your guest will truly believe the room actually contains fresh cut flowers. No one likes to enter a stale hotel or motel room . . . use Glyco-Mist and keep your rooms nice all the time!

## ANY BAD ODOR

Because Glyco-Mist possesses amazing germicidal and bactericidal properties in addition to its apple blossom freshness it can be used to spray in shoes to prevent spread of Athlete's Foot Disease, for spraying stored leather goods to prevent mold and mildew, for spraying stored woolens, pillows, mattresses, blankets, etc. to prevent moldy or stale odors.

If household pets make a mistake Glyco-Mist clears the air in a jiffy. Glyco-Mist should be used ANYWHERE — ANY TIME that you want to be rid of ANY DISAGREEABLE ODOR!

## BANISH ODORS INSTANTLY!

*with*

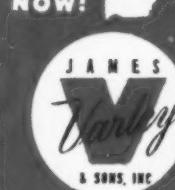
# Glyco-Mist

AIR-SANITIZER-DEODORIZER



Mail This Coupon

NOW!



JAMES VARLEY & SONS, INC.  
1200 Switzer Ave., St. Louis 15, Mo.

Please send further details and prices on  
GLYCO-MIST Air Sanitizer-Deodorizer to:

Name.....

Firm.....

Address.....

City..... State.....

# Non-Flammable Paint Strippers

## Relative Efficiencies of Chlorinated Solvents and Primary Solutions

### Part II

IN the first part of this article a screening method was described for evaluating paint strippers with various types of coatings. This month we conclude the listing of the various paint systems tested as shown in appendix 1 on the facing page.—Ed.

**System D-7 (Silicone)**—Stripping time was extremely rapid with methylene chloride.

**Tests with Lacquers (Table VI): System E-1 (Nitrocellulose)**—None of the co-solvents tested were effective in removing this coating.

**System E-2 (Vinyl)**—Slight improvements in wrinkling time were obtained with five percent concentrations of the following co-solvents: methanol, methyl acetate, and acetone. In almost all cases, the incorporation of higher concentrations of solvent detracted from performance.

**System E-3 (Baked Vinyl)**—This coating was stripped in 50 seconds by methylene chloride.

**System E-4 (Cellulose Acetate-Butyrate)**—None of the solvent mixtures tested had any effect on this coating within 10 minutes contact period.

**Tests with Primers (Table VII): System F-1 (Vinyl plus zinc chromate)**—Rapid stripping time was obtained with methylene chloride.

**System F-2 (Modified phenolic)**—None of the solvent combinations tested had any effect on this coating within 15 minutes contact period.

**System F-3 (Vinyl plus red lead)**—Effective reductions in

five percent acetone, 40 percent chloroform, and five percent dimethylformamide.

**System F-5 (Polyvinyl butyrate)**—None of the tested solvent had any effect on this coating.

**Test with shellac (Table VII)**—Methanol was the only co-solvent which improved the removal of shellac.

### Conclusions

THE superiority of methylene chloride over other chlorinated solvents can easily be demonstrated by laboratory tests.

There appears to be a definite relationship between stripping ef-

(Turn to Page 179)

**Table VI. Wrinkling Time of Binary Solutions Compared with Methylene Chloride on Lacquers**

Co-solvent	% by vol. Added	(Time in Seconds)			System E-4 (Cellulose) (Acetate- Butyrate)
		System E-1 (Nitro- cellulose)	System E-2 (Vinyl)	System E-3 (200°F. 20 min)	
Methylene Chloride	100	NR	110	50	NR
Methanol	5	NR	89	—	NR
Methanol	40	SR	NR	—	NR
Methylacetate	5	NR	90	—	NR
Methylacetate	40	SR	NR	—	NR
Acetone	5	NR	75	—	NR
Acetone	40	SR	105	—	NR
Cellosolve	5	NR	130	—	NR
Cellosolve	40	SR	NR	—	NR
Benzol	5	NR	133	—	NR
Benzol	40	NR	450*	—	NR
Mineral Spirits	5*	NR	300*	—	NR
Mineral Spirits	40	NR	NR	—	NR
Chloroform	5	NR	132	—	NR
Chloroform	40	NR	155	—	NR
Dimethylformamide	5	SR	123*	—	NR
Dimethylformamide	40	SR	107	—	NR

NR—No removal after — 10 mins.

SR—Slight removal after — 10 mins.

\*Paper presented before 41st midyear meeting, CSMA, Chicago, May 16, 1955.

### Appendix I. Paint Systems Tested

System	Type	Product	Manufacturer	Primer	System
A-1	Polyvinyl Acetate	Snlolite Finishes Quick Drying Wall Sealer, Emulsion Type—White	Pittsburgh Plate Glass Co.	1 coat	1 coat
A-2	Acrylic	Rubberflex Dryfast Wall Primer 75-4601 White	Montgomery Ward Co.	1 coat	1 coat
A-3	Styrene-Butadiene	Wallhide Rubberized Satin Finish—White	Pittsburgh Plate Glass Co.	1 coat	1 coat
B-1	Drying Oil	Devoe All-Weather House Paint 547 Outside White	Devoe & Reynolds Co.	—	1 coat
B-2	Soya Alkyd	Dulux Super—White Gloss Enamel	E. I. du Pont de Nemours & Co.	—	1 coat
B-3	Phenolic, Air	Unichrome A-143-3 Gray	United Chromium Corp.	—	1 coat
B-4	Phenolic, Baked	Unichrome B-124-17 Gray	United Chromium Corp.	—	1 coat
C-1	Chlorinated Rubber	Paratex Chlorinated Rubber Base Floor Coating—White	Truscon Labs	—	1 coat
C-2	Styrene-Butadiene	Stone-Dri Concrete Floor Enamel 765 White	Sapolin Paints, Inc.	—	2 coats
D-1	Epon	Devoe Super Marble Floor Varnish	Devoe & Reynolds Co.	—	2 coats
D-2	Styrene Copolymer	Instant Floor Seal No. 196 Transparent Coating	Sapolin Paints, Inc.	—	1 coat
D-3	Oleoresinous	Devoe Aquaspar Varnish	Devoe & Reynolds Co.	—	2 coats
D-4	Phenolic Varnish	Cawspur Varnish No. 400 Clear	C. A. Woolsey Paint	—	1 coat
D-5	Urea-Alkyd	Unichrome B-172 Clear	United Chromium Corp.	—	1 coat
D-6	Urea-Melamine (350°F.—10 Min.)	Baking Synthetic Coating B 115 Clear	United Chromium Corp.	—	1 coat
D-7	Silicone	V-552 Sicon Clear	Midland Industrial Finishes Co.	—	1 coat
E-1	Nitrocellulose	Unichrome Air Drying Lacquer A-112 Clear	United Chromium Corp.	—	1 coat
E-2	Vinyl	Ucilon Corrosion Resisting Coating 400 Clear	United Chromium Corp.	—	1 coat
E-3	Vinyl (200°F.—20 Min.)	Unichrome Baking Synthetic Coating B-132 Clear	United Chromium Corp.	—	1 coat
E-4	Cellulose Acetate Butyrate	Unichrome B-138 Clear	United Chromium Corp.	—	1 coat
F-1	Vinyl	Ucilon Corrosion Resisting Primer 405-P Yellow ( $ZnCrO_4$ )	United Chromium Corp.	—	2 coats
F-2	Modified phenolic	Unichrome Primer AP No. 10 ( $ZnCrO_4$ )	United Chromium Corp.	—	2 coats
F-3	Vinyl	Ucilon 460 (Red Lead)	United Chromium Corp.	—	2 coats
F-4	Alkyd	Devoe Ready-Mixed Red Lead No. 20	Devoe & Reynolds Co.	—	1 coat
F-5	Polyvinyl butyrate	Ucilon 441 Solution & 441 Accelerator ( $ZnCrO_4$ Wash Primer)	United Chromium Corp.	—	2 coats
G-1	White shellac	White Pure Shellac 4 lb. cut	Pinta Paint Products Co.	—	1 coat

**Yes! YOU "CLEAN UP"! — IN EVERY DEPARTMENT —**



*with*

# TFW DEEP-TONE ALL-PURPOSE • LIQUID CLEANER

. . . the amazing new CHEMICAL cleaning agent developed in world-famous TFW research laboratories to meet the special requirements of YOUR market!

SUPER CLEANING POWER! SAFE for any surface! Non-toxic! Non-irritating! 100% wetting action! Ideal opalescence! Popular cedar-leaf scent! Suspends dirt!

PERFECT for ALL floors . . .

- Linoleum              • Wood              • Vinylite
- Rubber              • Concrete              • Cork
- Asphalt Tile              • Mosaic

• TFW DEEP-TONE CONCENTRATE . . . cuts freight in half! Converts simply, instantly with ordinary tap water!

PUT THE TFW FLOOR MAINTENANCE "CREW"  
TO WORK FOR YOU!

Make EVERY floor a PROSPECT with the one best answer to every need!

Make every prospect a PERMANENT customer with the floor line that RE-sells itself!

#### TFW SEALERS & FINISHES

- ALL-AMERICAN GYM FINISH
- SUPER ALL-AMERICAN GYM FINISH
- CONCENTRATED SEALER-FINISH
- FLOR-CO SEAL
- FLOR-CO FINISH
- CONCENTRATED FLOR-CO SEALER-FINISH
- TREAD-PROOF FLOOR SEAL
- PENETRATING SEAL
- CRYSTAL SEAL
- COLOR SEAL
- ALL-AMERICAN STRIPPER
- CLEAR-LITE ANTI-DUST OIL

#### TFW CLEANERS

- DEEP-TONE LIQUID CLEANER
- CONCENTRATED DEEP-TONE LIQUID CLEANER

#### TFW FLOOR COATINGS

- LOCK-STEP ANTI-SLIP COATING
- DEEP-LUSTER WAX EMULSION
- SURE-STEP WAX
- FLOR-FILM WAX

HAVE YOU HEARD???.  
...about TFW's new, unique service?

**FREE!**

Beginning right now, the CREATIVE FACILITIES of TFW's advertising agency are yours for the asking! . . . to help you prepare advertising, sales promotion and selling tools that will guarantee TOP profits from your TOP quality TFW line!

GET ALL THE FACTS!— FAST!

TELL US MORE! . . . about TFW's sensational new "SERVICE-TO-SELLERS" program!

Buyer's Name \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_

State \_\_\_\_\_



**T. F. WASHBURN Company**

Manufacturers of Quality Paint Components and Floor Finishing and Maintenance Products since 1886

2244 ELSTON AVENUE, CHICAGO 14, ILLINOIS

Warehouses: Los Angeles • San Francisco • Denver • Seattle • Atlanta • Dallas

S-105

# PETRONATE

(Reg. U. S. Pat. Office)

...the oil-soluble petroleum sulfonate for all four major functions . . .

- A Emulsification and Dispersion of Liquids**
- B Dispersion and Wetting of Solids**
- C Wetting and Dispersion of Liquid-Solid Systems**
- D Inhibition of Rust and Corrosion**

PETRONATE is the general trade name given by Sonneborn to its various types and grades of oil-soluble petroleum sulfonates.

The chart suggests the broad range of uses for this material. A laboratory sample of PETRONATE will

help you determine how its many advantages can be put to efficient use in your manufacturing processes.

Check the coupon below indicating the use intended so that we can send you the proper type of PETRONATE.

## USES OF PETRONATE

APPLICATION	PRIMARY FUNCTION OF PETRONATE	SECONDARY FUNCTION
<b>EMULSIFICATION AND DISPERSION OF LIQUIDS</b>		
1. Insecticide Emulsions	Emulsifying Agent for Toxicant	Spreading Agent
2. Textile Oils	Emulsifying Agent for Textile Processing Oils	Wetting and Dispersing Agent for Textile Fibers
3. Leather Oils	Emulsifying Agent for Leather Processing Oils	Wetting and Dispersing Agent for Leathers
<b>DISPERSION AND WETTING OF SOLIDS</b>		
4. Rubber Manufacture	Thermo Plasticizing Agent	Increases Dispersibility of Filler
5. Fuel Oil	Keeps Sludge in Suspension	Prevents Segregation of Moisture
6. Printing Ink Manufacture	Aids dispersion of pigment	Reduces Viscosity of Ink
7. Ore Flotation	Flotation Reagent	Selective Wetting Agent
8. Additives for Lube Oil	Acts as Detergent	Inhibits Bearing Corrosion
<b>WETTING AND DISPERSION OF LIQUID-SOLID SYSTEMS</b>		
9. Crude Oil Emulsion Splitting	Reverting Agent for Water-in-Oil Emulsions	Aids in Wetting out Salts and Solids
10. Emulsifiable Solvent Cleaners	Dispersing Agent for Oil and Grease Deposits	Acts as Emulsifying Agent
11. Dry Cleaning Compounds	Linking agent for Water and Solvent	Loosens Dirt Absorbed by Fabric
12. Fat Splitting Process	Dispersing Agent for Solid Fats	Acts as Wetting Agent
<b>INHIBITION OF RUST AND CORROSION</b>		
13. Corrosion Preventive Compounds	Rust and Corrosion Inhibiting Agent	Acts as Moisture Barrier
14. Anti-Freeze Solutions	Rust and Corrosion Inhibiting Agent	Aids in Dispersion of Scale
15. Soluble Cutting Oils	Emulsifying Agent for Mineral Oil	Rust Inhibitor

L. SONNEBORN SONS, INC.

New York 10, N. Y.

White Oil and Petrolatum Division, L. SONNEBORN SONS, INC.  
300 Fourth Avenue, New York 10, N. Y.

Please send sample of PETRONATE suitable for use indicated below (circle number corresponding to use in chart above).

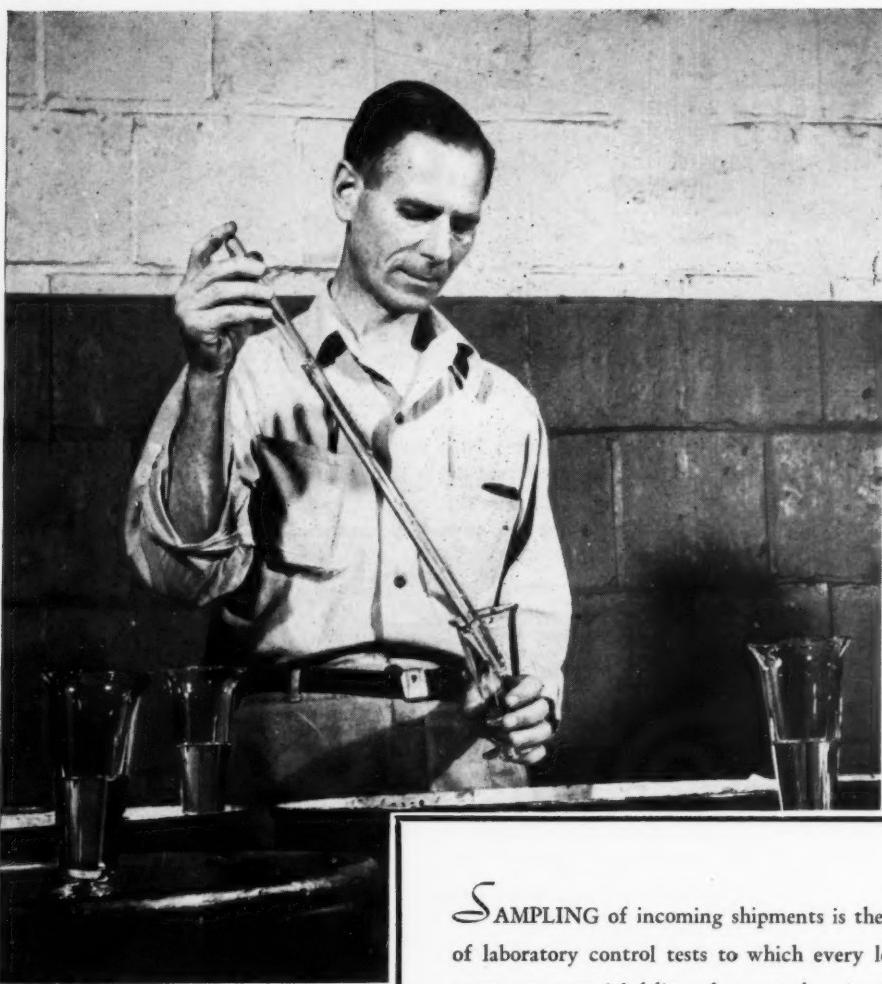
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ P.O. Zone \_\_\_\_\_ State \_\_\_\_\_



DRAWING OFF SAMPLES FOR  
LABORATORY CONTROL TESTS

—ALWAYS DEPENDABLE—  
ODORANTS and DEODORANTS  
for INDUSTRIAL and  
TECHNICAL USE

▼  
MADE-TO-ORDER FRAGRANCES  
for PERFUMES, TOILETRIES  
and COSMETICS

▲  
SUPPLIERS of  
AROMATIC CHEMICALS,  
BASIC PERFUME and  
FLAVOR RAW MATERIALS

SAMPLING of incoming shipments is the first step in a long series of laboratory control tests to which every lot, drum or container of every raw material delivered to our plant is subjected before its acceptance into stock. To gain laboratory approval, each sample must meet or exceed the high quality standards established for that particular material. For as we see it, our greatest service to the customer is to supply him a grade of material that will help him make his finished product superior—*qualitywise*—to other competing brands. Essential to that ideal of service are, first, *a sound knowledge of what constitutes a fine material*, and second, *a fixed policy of control that insures critical examination and selection of all materials offered*. Pictured above is the start of that procedure which enables us to put this concept of service into full and effective practice.

**FRITZSCHE** Established 1871  
*Brothers, Inc.*

PORT AUTHORITY BUILDING, 76 NINTH AVENUE, NEW YORK 11, N.Y.

BRANCH OFFICES and STOCKS: Atlanta, Georgia; Boston, Massachusetts; Chicago, Illinois; Cincinnati, Ohio; Cleveland, Ohio; Los Angeles, California; Philadelphia, Pennsylvania; San Francisco, California; St. Louis, Missouri; Toronto, Canada and Mexico, D.F. FACTORY: Clifton, N.J.

(From Page 174)

ficiency and number of chlorine atoms in a molecule. It is also believed that chain length and molecular configuration are factors influencing performance of chlorinated solvents.

A screening method was developed as a useful tool for future investigators who are faced with evaluating large numbers of solvent systems with various types of coatings.

From the results of tests with eight classes of solvents on 26 different types of coatings, it was shown that the efficiency of methylene chloride was radically altered by the type and amount of co-solvent selected. Polar solvents tended to improve stripping time whereas non-polar solvents generally acted as diluents for methylene chloride. The incorporation of minor quantities of polar solvents was more effective than massive concentrations. The former either improved efficiency or at least behaved as an extender, while the latter situation detract-

**Table VIII. Wrinkling Time of Binary Solutions Compared with Methylene Chloride on Shellac**

Co-solvent	(Time in Seconds)		
	% by vol. added	System G-1 (White Shellac)	
Methylene Chloride	100	NR	
Methanol	5	250*	
Methanol	40	100*	
Methylacetate	5	NR	
Methylacetate	40	NR	
Acetone	5	NR	
Acetone	40	NR	
Cellosolve	5	NR	
Cellosolve	40	NR	
Benzol	5	NR	
Benzol	40	NR	
Mineral Spirits	5	NR	
Mineral Spirits	40	NR	
Chloroform	5	NR	
Chloroform	40	NR	
Dimethylformamide	5	NR	
Dimethylformamide	40	NR	

\*Incomplete removal.  
NR—No removal in 10 mins.

**Table VII. Wrinkling Time of Binary Solutions Compared with Methylene Chloride on Primers**

Co-solvent	% by vol. added	(Time in Seconds)				
		System F-1 (Vinyl)	System F-2 (Modified Phenolic)	System F-3 (Vinyl)	System F-4 (Oleoresinous)	System F-5 (Polyvinyl Butyrate)
Methylene Chloride	100	45	NR	180*	72	NR
Methanol	5	—	NR	77*	24	NR
Methanol	40	—	NR	166*	30	NR
Methylacetate	5	—	NR	85*	75	NR
Methylacetate	40	—	NR	180*	60	NR
Acetone	5	—	NR	179*	55	NR
Acetone	40	—	NR	216*	330*	NR
Cellosolve	5	—	NR	163*	60	NR
Cellosolve	40	—	NR	NR*	123*	NR
Benzol	5	—	NR	420*	80*	NR
Benzol	40	—	NR	600*	77*	NR
Mineral Spirits	5	—	NR	300*	80	NR
Mineral Spirits	40	—	NR	NR*	165*	NR
Chloroform	5	—	NR	300*	60*	NR
Chloroform	40	—	NR	450*	45*	NR
Dimethylformamide	5	—	NR	120*	40	NR
Dimethylformamide	40	—	NR	228*	136	NR

\*Incomplete removal.  
NR—No removal in 15 mins.  
NR\*—No removal in 10 mins.

ed from performance with few exceptions.

Two such exceptions noted were with air-dried phenolic paint and shellac.

Polar compounds such as methyl alcohol when in combination with methylene chloride functioned more as activators than as co-solvents.

#### Acknowledgment

THIS work was conducted under the sponsorship of Solvay Process Division, Allied Chemical and Dye Corp., New York.

The authors wish to acknowledge the contributions of Dr. M. Skrypa, Solvay Process Division and A. J. Beglin and M. Bernstein of Foster D. Snell, Inc., New York.

#### In New Dow Posts

L. A. Doan has been appointed assistant general manager of the western division of Dow Chemical Co., Midland, Mich., it was announced recently by R. L. Curtis, general manager of the divi-

sion. With Dow since 1941, Mr. Doan had been western sales manager for the past four years.

Paul S. Foster was named manager of the firm's San Francisco office, it was announced at the same time by Donald Williams, vice-president and director of sales. Having joined Dow as a chemicals salesman in 1946, Mr. Foster's most recent position was chemical sales supervisor for the San Francisco office.

#### Transfers Pfrommer

Michigan Chemical Corp., Saint Louis, Mich., announced recently the transfer of Carl H. Pfrommer, assistant director of operations, to New York City. He joins the firm's staff for sales and sales service assignments in the city and New England. With Michigan since 1946, Mr. Pfrommer served with the Chemical Warfare Service from 1941 until 1946, rising from private to the rank of captain. He will make his headquarters at 230 Park Avenue, the firm's branch office.

THE RESEARCH INSTITUTE BEHIND

Genuine **Roccal**  
Reg. U. S. Pat. Off. and Canada  
BRAND

SANITIZING AGENT



**THE ORIGINAL QUATERNARY AMMONIUM GERMICIDE**

Sterling-Winthrop  
Research Institute  
Rensselaer, N. Y.

Research on Roccal, the original quaternary ammonium germicide, is now being conducted in the impressive structure shown above. Here a large staff of scientists, working with the most modern equipment, is continually striving to improve existing Sterwin products and develop new products.

**IT ALWAYS PAYS TO USE THE BEST**

Use only the original quaternary ammonium germicide, *genuine* Roccal, in your compounds and formulations. Then you can be sure of potency, uniformity, quality and stability.

**NOW OFFERED TO  
MANUFACTURERS IN  
50% CONCENTRATION**

In proper dilutions  
**ROCCAL** is:  
**POTENT**  
**STABLE**  
**NON-POISONOUS**  
**TASTELESS**  
**ODORLESS**  
**NON-IRRITATING**  
**TO SKIN**

Sample and literature  
on request

*Sterwin Chemicals, Inc.*

1450 BROADWAY, NEW YORK 18, N. Y.  
Branches in principal cities throughout the United States

# FLY REPELLENTS

By D. E. Howell, Oklahoma A. and M. College, Stillwater  
L. D. Goodhue\* Phillips Petroleum Co. Bartlesville, Okla.

**I**NSECT repellents such as pitch, hemp smoke and expressed oils have been used since the dawn of history to protect man and his animals from the ravages of insect hordes. With the development of modern insecticides, repellents were less frequently used but the need for adequate protection of military personnel against mosquitoes and chiggers quickly revived interest in this method of control. Interest in repellents to protect cattle and sheep against anthropods increased when it was shown that the recommended insecticides failed to kill rapidly enough to prevent the spread of theilerioses and anaplasmosis but repellents which kept the animals completely free of the vectors gave absolute protection.

Extensive effort has been expended to find repellents effective against mosquitoes, ticks and mites, but little recent work has been published on fly repellents. Goodhue (1,2) reported on the value of 2,3,4,5-bis( $\Delta^2$ -butenylene)-tetrahydrofurfural (R-11), 2,3,4,5-bis( $\Delta^2$ -butenylene)-tetrahydrofurfuryl alcohol (R-440), and di-n-propyl isocinchomeronate (R-326) as housefly repellents under laboratory conditions. Bruce (3) indicated that R-326 was a very effective housefly repellent but fugitive under humid conditions; More (4) and

Howell (5) found both materials effective in the field. Tests with other insects indicated that R-11 was more effective against a wide range of insects than R-326. It is equal to dimethyl phthalate against most mosquitoes, very effective against roaches and useful against many other insects.

Extensive laboratory and field tests designed to evaluate these repellents and closely related chemicals alone and mixed with other chemicals have been run over a three-year period. For clarity in presentation, field and laboratory tests are presented separately.

## Materials and Methods

**L**ABORATORY TESTS: All laboratory tests were carried on in the research laboratories of Phillips Petroleum Co., Bartlesville, Okla. The insects used were reared in the laboratory by standard procedures (6,8).

Housefly repellency was determined by the sandwich bait method of Kilgore (7) as modified by Goodhue (2). In this test a strip of molasses was painted on cardboard, dried and covered with lens paper which had been impregnated with the repellent dissolved in acetone. These cards were exposed to hungry houseflies and the degree of repellency measured by the reduction in feeding as compared with the checks. The repellent impreg-

nated strips were exposed to various conditions and the reduction in the effectiveness was accurately measured.

The effects of weather were simulated by exposing the prepared strips to the rays of a General Electric sun lamp S-1 on a slowly revolving turntable over water for extended periods. The temperature was maintained at 100 F. This procedure was particularly useful in evaluating the effectiveness of stabilizers.

The organdy bag method (2) was used to evaluate repellents against stable flies. In this method a mitt made of 100 square inches of organdy was impregnated with a certain amount of the chemical in acetone solution. The mitts were dried and after given intervals, placed on the hand of a technician and held in a cage of hungry flies. Repellency was considered lost when the first bite occurred. If no bites occurred in five minutes, the mitt was hung up and tried in the same manner the next day. The number of days protection was used as a measure of the repellency.

**F**IELD TESTS: All field tests were carried on in the environs of Stillwater, Okla., with college animals and barns. Naturally occurring fly populations were used in each case.

Small calves three to 12  
(Turn to Page 185)

\* Paper presented before 41st midyear meeting, C.S.M.A., Chicago, May 16, 1955.

# Du Pont Methoxychlor

(90% technical methoxychlor oil concentrate)

## Insecticide knocks down flies as well as formulation costs

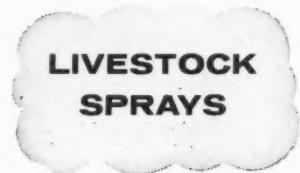
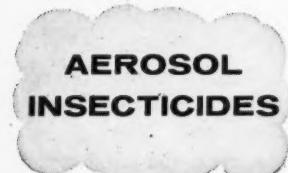
Tests show how economical methoxychlor can be the backbone of any spray.

	ESTIMATED % FLIES ON FLOOR					% DEAD
	2 Min.	4 Min.	6 Min.	8 Min.	10 Min.*	
0.25% methoxychlor	3	36	75	90	29	38
0.50% "	6	50	88	93	96	63
0.75% "	9	61	93	97	98	79
<b>1.00%</b> "	<b>16</b>	<b>71</b>	<b>95</b>	<b>97</b>	<b>99</b>	<b>85</b>

Methoxychlor is readily available. At 1% strength, it costs less than 8¢ per gallon of spray.

\*Figures from standard Peet-Grady tests of methoxychlor space sprays

**Methoxychlor adds performance plus economy to—**



Write for technical bulletin on 90% methoxychlor:  
Du Pont, Grasselli Chemicals Department, Room D-4032,  
Wilmington, Delaware. In Canada—Du Pont Company  
of Canada Ltd., Box 660, Montreal.



BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY

# RHODIA

offers an extensive line of highest-quality  
PERFUME OILS for AEROSOL PROPELLANTS

Consult this chart to learn which tested-and-proved RHODIA fragrance  
is best suited for your aerosol product.

	CODE	ODOR	PRICE PER LB.	SPACE DEODORANTS	COLOGNES T.W.	SHAVE CREAMS	SHAMPOOS	CREAMS LOTIONS	INSECTICIDES MOTHICIDES	HOUSEHOLD CLEANERS	LETHANE PRIMATE
MODERN 65 . . . . .	2-376	C5 . . . . .	\$2.10 2.20	✓	✓				✓	✓	✓
ALAMASK® CA . . . . .	2-193	CEDAR . . . . .	2.50	✓	✓						
BOUQUET LM . . . . .	7331	LAV-MINT . . . . .	2.75	✓	✓						
MINT . . . . .	7351	MINT . . . . .	2.75								
ALAMASK ND . . . . .	1-773	SPICE . . . . .									
BOUQUET PI . . . . .	7321	PINE . . . . .	3.15	✓							
BOUQUET . . . . .	7340	FLORAL . . . . .	3.50								
LEMON . . . . .	7212	LEMON . . . . .	3.60	✓					✓		
PINE . . . . .	7338	PINE . . . . .	3.75								
MINT . . . . .	7313	MINT . . . . .	4.00								
BOUQUET OZ . . . . .	7327	OZONE . . . . .	4.25	✓							
COLOGNE . . . . .	7329	COLOGNE . . . . .	4.50	✓							
BOUQUET BG . . . . .	7200	COLOGNE . . . . .	4.75	✓							
ORANGE BLOSSOM . . . . .	7344	ORANGE BLOS. . . . .	5.00	✓							
SWEET PEA . . . . .	7201	SWEET PEA . . . . .	5.00								
COLOGNE . . . . .	7337	COLOGNE . . . . .	5.00								
PINE NEEDLE . . . . .	7342	PINE . . . . .	5.15								
MODERN 32 . . . . .	2-243	MODERN . . . . .	5.25								
FOUGERE . . . . .	7281	FOUGERE . . . . .	5.15	✓							
LAVENDER H . . . . .	7333	LAVENDER . . . . .	5.25								
BOUQUET SP . . . . .	2-500	SPICE . . . . .	5.25	✓							
BOUQUET C . . . . .	7290	CHYPRE . . . . .	5.25	✓							
BOUQUET . . . . .	7282	LAV. FOUGERE . . . . .	5.50	✓							
FLORAL . . . . .	7330	FLORAL . . . . .	5.75	✓							
BOUQUET ST 65 . . . . .	2-477	FLORAL . . . . .	5.75	✓							
ROSE . . . . .	7346	ROSE . . . . .	5.85								
FOUGERE . . . . .	7320	FOUGERE . . . . .	5.85								
LOCUST BLOSSOM . . . . .	7339	LOCUST BLOS. . . . .	6.85								
GARDENIA . . . . .	7306	GARDENIA . . . . .	6.85								
BOUVARDIA . . . . .	7341	BOUVARDIA . . . . .	7.60								
COLOGNE . . . . .	7348	COLOGNE . . . . .	7.85								
LILAC . . . . .	7240	LILAC . . . . .	8.35								
LAVENDER . . . . .	7283	LAVENDER . . . . .	9.00								
COLONIAL . . . . .	7347	SPICE . . . . .	9.90								
SCOTCH KILT . . . . .	7349	HEATHER . . . . .	12.50								
LILY-VALLEY . . . . .	7350	LILY-VALLEY . . . . .	13.75								
LILY-VALLEY . . . . .	R-133	LILY-VALLEY . . . . .	18.90								
SHARL . . . . .	6279	ORIENTAL . . . . .	20.00								

For expert advice on your formulations,  
or methods of improving the odor of your  
product, contact us. Write today for a cata-  
log listing RHODIA's aromatic materials.

Write for your copy of this chart

**Rhodia** INC.  
230 Park Avenue, New York 17, N. Y.

Plant: Paterson, N. J.



**Your Customers Save  
20% to 40% Over Ordinary  
Cleaning Methods with**



**Also excellent for Dust Mop Treatment**

Big, steady demand, good profits are yours when you specify PEPCO SHINE, the spray that keeps floors cleaner, brighter at much lower cost.

PEPCO SHINE is sprayed directly on wood floors once a month, then burnished in with dry mop. Daily sweeping with spray-treated mop keeps them sparkling clean. All other floors maintained with PEPCO SHINE treated mop only.

Regular use of PEPCO SHINE reduces frequency of soap and water scrubbing . . . makes sweeping easier, saves sweeping time . . . controls floor dust for cleaner, healthier rooms . . . protects the finish, makes waxings last longer . . . gives luster without slipperiness.

PEPCO SHINE is harmless, has no objectionable odor. Underwriters' Laboratories approved (non-flammable).

Always have PEPCO SHINE in your line. See how fast sales mount . . . how much customer-satisfaction you build.

**WRITE FOR  
FREE SAMPLE**

and for Peck's specialized  
jobbers sales aid  
folder.

**MAIL THIS COUPON NOW!**

Peck's Products Company,  
610 E. Clarence, St. Louis 15, Mo.

Send Free Sample of Pepco Shine  
and the Sales Aid Folder.

Name \_\_\_\_\_

Firm \_\_\_\_\_

Street \_\_\_\_\_

City & Zone \_\_\_\_\_ State \_\_\_\_\_



**Peck's PRODUCTS COMPANY**

**610 E. CLARENCE, ST. LOUIS 15, MO.**

MANUFACTURERS OF SOAPS, DETERGENTS, SANITARY PRODUCTS

weeks of age were treated with known amounts of repellents by placing them in the hands and rubbing them on the animals' hair in the same manner as mosquito repellents are applied. Small surface areas were treated by absorbing the repellent on two-inch square pads of surgical gauze and rubbing the surface to be treated until a uniform distribution was obtained. Larger areas were treated with three-gallon compressed air sprayers or power sprayers using fan nozzles.

Several types of surfaces were treated. These were divided into areas never exposed to direct sunlight or rain and into areas constantly exposed to both. The entire buildings treated were small hog houses for sows and pigs. Only the walls and ceilings were treated as the dirt floors were continually stirred. Flies on the floors were not counted in evaluating control.

The effectiveness of the repellents on paper was compared by dipping a large number of strips of adding machine paper having 100 square inches in a 1.0 per cent acetone solution of the repellent. They were then hung in a fly-free room so that air circulated freely around each strip until needed. Ten replications of each material were hung in a barn with many flies for 24 hours. The fly specks on the paper were compared with acetone treated checks.

Milking cows were sprayed daily with three to 10 ml. of repellent using an Idico mist sprayer to simulate use in an automatic treadle operated sprayer. Mixtures of repellents and pyrethrins were applied in a similar manner.

#### Laboratory Tests Results

In previously reported screening tests, R-11, R-326 and R-440 were shown to be very good repellents except under adverse weather conditions. Data presented here indicate that additives and combinations of repellents will greatly extend the period of effectiveness.

A large number of chemicals

**Table I. Chemicals Extending the Effective Period Of R-326**

Both R-326 and Stabilizer Applied at 0.5 per cent and Exposed Four Hours to Sunlamp)

Name of Stabilizer	Number of flies feeding after X Minutes				
	15	30	60	120	150
None (representative run)	25	10	gone		
$\beta$ -methylumbelliferone	0	0	0	0	0
4-Methyl-6-hydroxycoumarin	0	0	0	2	0
4-Methyl-6,7-dihydroxycoumarin	0	0	0	1	0
Coumarin	4	1	3	3	gone
Triton X-100	0	1	6	0	0
Chlorhydroquinone	0	0	0	0	0
Phenylhydroquinone	0	0	0	0	0
2,5-Di- <i>tert</i> -butyl hydroquinone ..	0	0	0	1	0
<i>tert</i> -Butylhydroquinone	0	0	0	0	0
Hydroquinone	0	0	0	0	0
p-Aminobenzoic acid	0	1	0	2	0
Quinine	0	0	1	0	0
Quinidine	0	0	0	0	0
Resacetophenone	1	2	2	2	1

were tested as extenders for R-326. The data in Table I indicate those which appreciably extended the repellency of R-326 to houseflies. It will be noted that some coumarin derivatives, especially  $\beta$ -methylumbelliferone, were particularly effective. Hydroquinone and some of its derivatives were equally good as extenders. The chemicals most effective in the preliminary tests were more extensively tested at lower ratios to R-326 and for longer periods of accelerated aging.  $\beta$ -methylumbelliferone and hydroquinone were the two that gave the most protection.

$\beta$ -methylumbelliferone has a low solubility in most solvents but it can be formulated with R-326 as a wettable powder. A formula that gave good results is:

R-326	25.0 per cent
$\beta$ -Methylumbelliferone	12.5 per cent
Triton X-100	1.5 per cent
Attasorb (clay)	61.0 per cent
	100.0

The repellent, additive and wetting agent were deposited on the Attasorb from an acetone solution containing enough dimethyl formamide to dissolve all the  $\beta$ -methylumbelliferone. Although this work was done late last season there was time

for one practical test. The results were good and will be presented in the section under field tests. This formulation keeps well. No detectable change in repellency has occurred in six months. Wettable powders containing hydroquinone are also stable and equally effective in laboratory accelerated aging tests but they have not yet been tested in the field. Triton X-100 is an extender (Table I) and is therefore a good choice for a wetting agent. Wettable powders with R-326 and this emulsifier alone on Attasorb show good stability.

Certain combinations of R-11, R-326 and R-440 were tested as stablefly repellents. The pyrethrum synergist, N-octyl-bicycloheptene dicarboximide (MGK-264) was included in some of the mixtures. The organdy bags were impregnated with a total of two grams of the repellent or mixtures. The time in days to breakdown, that is, when bites occur, is used as the measure of effectiveness. The results with several combinations are given in Table II.

In nearly every instance the repellency of an equal weight of a mixture was more repellent than any of the components alone. In the

# *Control*

the KEYNOTE to better  
REFINED (dewaxed) WHITE SHELLAC  
for non-rubbing FLOOR POLISHES



Section of GRP Shellac Development and Control Laboratory  
Over 20,000 Tests Made Annually

*Control* — All raw materials meticulously analyzed for strict conformity to rigid buying specifications.

*Control* — Every step of the manufacturing process continuously checked to assure uniform production of the highest quality.

*Control* — Finally, exhaustive tests of finished products to guarantee compliance with customers' specifications, thus safe-guarding the superior quality of their products.

**GRP**  
The Preferred  
**SHELLAC**

**GILLESPIE-ROGERS-PYATT CO., INC.**

Office: 75 West St., New York 6, N. Y.  
Plant and Laboratory: Jersey City, N. J.

Representatives and warehouse stocks in principal cities in the  
United States and Canada

**Table II. Results of Tests with Single Compounds and Mixtures Using the Organdy Bag Method on Stableflies**

		Grams per 100 sq. in.	Days to Breakdown
<b>Single Chemicals</b>			
R-11	2,3,4,5-Bis ( $\Delta^2$ -butenylene)-tetrahydrofurfural	2	2
R-440	2,3,4,5-Bis ( $\Delta^2$ -butenylene)-tetrahydrofurfuryl alcohol	2	4
R-326	Di-n-propyl isocincheronate	2	1
MGK-264	N-Octyl bicycloheptene dicarboximide	2	3
<b>Mixtures with Two Chemicals</b>			
R-11		1	7
R-326		1	
R-440		1	13
R-326		1	
R-440		1	9
MGK-264		1	
R-11		1.0	5
MGK-264		1.0	
<b>Mixtures Using Three Components</b>			
R-440		0.5	
R-326		0.5	13
MGK-264		1.0	
R-11		0.5	
R-326		0.5	8
MGK-264		1.0	

binary mixtures, R-440 and R-326 gave protection for 13 days. Adding MGK-264 and reducing the repellents also gave 13 days. The mixture of R-11 and R-326 was also much better than either alone and with this mixture MGK-264 may provide some improvement. In the binary mixtures, MGK-264 added to the effective period of R-11 and R-440. Synergism was apparent in the better combinations. The same relative increase in the effective period was obtained when a total of one gram was used on the organdy bag, but the number of days protection was reduced about one-third. Also the ratios of R-326 and R-440 were changed from the 50-50 to 75-25 and 25-75. When R-440 comprises only 25 per cent of the mixture, the effective period was reduced somewhat. Houseflies are effectively repelled by all mixtures containing R-326.

#### Results of Field Tests

In 1953 R-11 and R-326 were tested under many different conditions. R-440 was not available at that time. The data are too voluminous to include in their entirety so a condensed version is presented as shown in Table III. The number of days protection at the

50 and 90 per cent level is given. The method and amounts of ma-

**Table III. Days of Protection Provided by Repellents on Surfaces in the Sun or Shade**

Surface	Days of 90% and 50% Protection			
	R-11	R-326	90%	50%
Calves in shade	3	13	12	13*
Calves in sun	0	3	1	3
Iron in shade	1	2	23*	23*
Iron in sun	0	0	3	5
Galvanized iron in shade	0	1	11*	11*
Wood in shade	3	6	67*	67*
Plaster in shade	3	5	18	60*

\* Experiment ended.

terial applied are given above. In general it will be noted that sunshine reduces the effective period

of both chemicals. R-326 gave considerably longer protection than R-11. The best result with R-11 was on calves in the shade.

Table IV shows the reduction in fly specks on paper treated with three different amounts of R-11 and R-326. The latter was repelling more than 90 per cent after 21 days at the highest dosage. These papers were not exposed to sunlight. R-11 did not appear to repel as well in this experiment but on porcelain light shades it gave excellent protection against flies and night flying insects whereas R-326 was not as good.

Some typical results from the use of repellents on milk cows are given in Table V. In the first part of the experiment one ml. of R-326 in 2 ml. of alcohol was applied per day as a fine mist. Fly counts were taken before and after spraying. The houseflies, stableflies, and horn flies were recorded separately. Houseflies and horn flies were controlled very well with R-326. The control of stableflies was not quite as good which is in line with laboratory tests with this repellent. However, it should be noted that stablefly control increases markedly when R-440 is used with R-326. There is an accumulative effect in both experiments.

One of the most practical ways to use these repellents is in an oil base fly spray with synergized pyrethrum. In many instances the number of sprayings can be cut in half or even less. Also after spraying several times the accumulative effect of the repellent is evident and spraying can be further re-

**Table IV. Days of Protection Provided by Repellents Absorbed by Paper Strips Measured by the Reduction in Fly Specks Compared with a Check**

Repellent	M/100 sq. in.	Days of 90% and 50% Protection	
		90%	50%
R-11	1.3	2	9
R-11	0.26	0	1
R-11	0.026	0	1
R-326	1.3	21*	21*
R-326	0.26	9	21*
R-326	0.026	0	18

\*Experiment Ended



Many a sale is won by a nose. Use MM&R Perfume Oils — famous the world over for strength and well-rounded bouquet — to give *your* product a sales-stimulating fragrance...a refreshing odor that buyers can't resist. Complete listings of MM&R Perfume Oils for every product, every budget. Our modern perfume laboratories will gladly recommend a perfume oil, or compound one for your particular needs.

Let us tell you of the advantages to be derived through the use of MM&R products. Or contact your MM&R representative — the "MAGNA man."



## MAGNUS, MABEE & REYNARD, INC.

*Since 1895 . . . The World's Most Famous Supplier of  
Essential Oils and Flavors*

16 DESBROSSES STREET, NEW YORK 13, N. Y.  
221 NORTH LA SALLE STREET, CHICAGO 1, ILL.

**Table V. Percent Fly Reduction with Repellents**

1 ml. 326 in 2 ml. alcohol per day

Days	Horn flies		Stable flies		House flies	
	1 hr. before	1 hr. after	1 hr. before	1 hr. after	1 hr. before	1 hr. after
1	—	100	—	0	—	100
2	81	92	22	70	80	100
3*	66	81	40	70	88	80
4	52	83	45	61	94	99
5	69	100	47	66	99	100

1 ml. 326, 1 ml. 440 in 2 ml. alcohol per day						
Days	1 hr. before	1 hr. after	1 hr. before	1 hr. after	1 hr. before	1 hr. after
1	—	100	—	79	—	86
2	80	100	77	88	86	100
3*	79	83	79	87	100	93
4	65	92	81	89	75	100
5	90	98	84	92	97	100

\*Not sprayed on this day

duced. In one series of tests a standard pyrethrum and piperonyl butoxide spray gave approximately 50 per cent control using nine ml. per animal. When one ml. of R-326 was added to the nine ml. of pyrethrum spray the control obtained was near 100 per cent.

After it was found in the laboratory that certain chemicals ex-

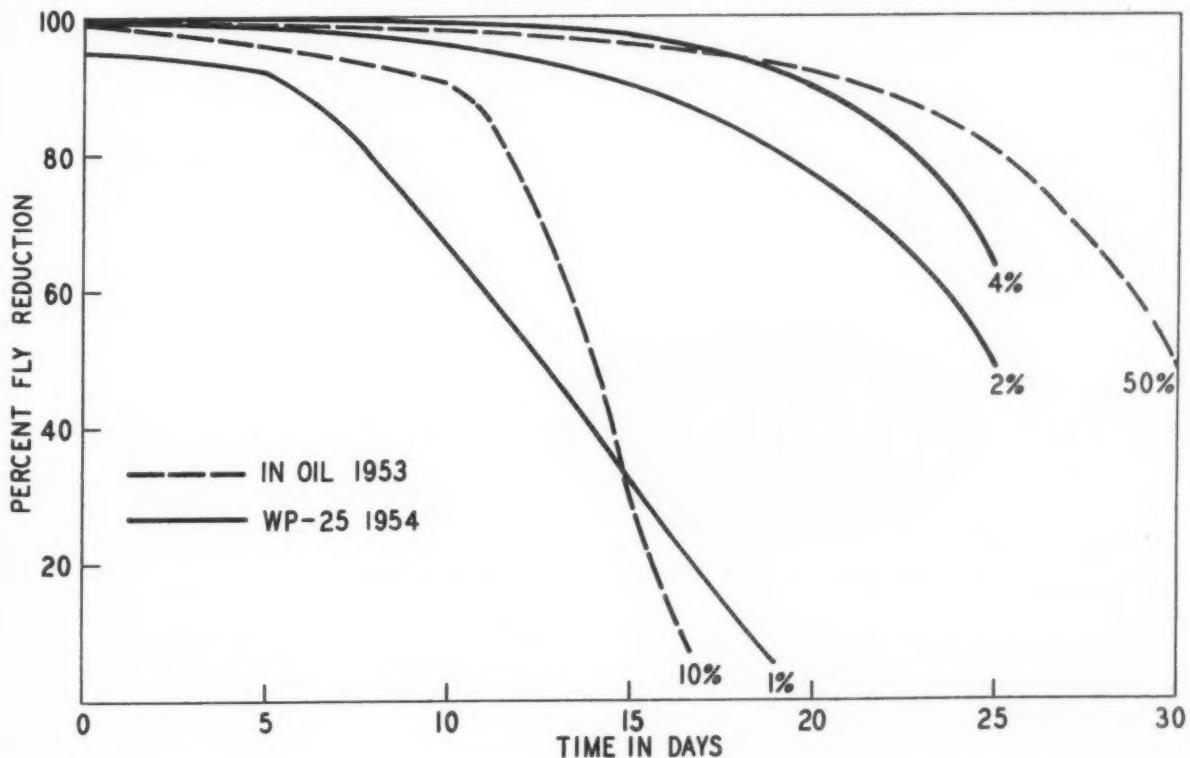
tend the effective period of R-326, a wettable powder formulation containing  $\beta$ -methyl umbelliferone was tested in small hog houses. The percentage fly reduction was very good but varied with the dosage used. These results are shown graphically in Figure 1. Two curves obtained the previous season using an oil solution are included. While the

data cannot be directly compared it would appear that R-326 in the stabilized wettable powder formulation is about 10 times as effective as the oil solution. The season ended before further tests could be run but the effectiveness of wettable powder formulations will be thoroughly investigated next season.

### Summary

RESULTS of laboratory and field tests are given on the fly repellents di-n-propyl isocinchomeronate (R-326), 2,3,4,5-bis ( $\Delta^2$ -butenylene)-tetrahydrofurfural (R-11), and 2,3,4,5-bis ( $\Delta^2$ -butenylene) - tetrahydrofuryl alcohol (R-440). Extensive tests indicate these repellents provide good protection under most conditions of application. Duration of repellency under outdoor conditions can be greatly improved by the addition of stabilizers. Wettable powder formulations are superior to other types of sprays. R-326 is an outstanding

(Turn to Page 221)

**Fig. 1. Housefly reduction in hog houses with 326**

*Quality  
Tested*

*For no-rub waxes  
with greater  
shelf-stability*

*plus*

*gloss  
scuff resistance  
durability  
leveling  
anti-slip*

#**65**

*Refined white shellac*

Leading manufacturers of water emulsion waxes  
and polishes have adopted Mantrose shellac because  
of its high quality, uniformity and stability.

*The Mantrose Corporation*

*Importers • Bleachers • Manufacturers*

136-146 FORTY-FIRST STREET • BROOKLYN 32, N. Y.

**Agents and  
warehouse stocks  
in principal cities:**

Allied Basic Chemical Co.  
Montreal 24, Canada  
Allied Basic Chemical Co.  
Toronto 12, Canada  
J. A. Castro  
Havana, Cuba  
C. M. Durbin Company  
Cincinnati, Ohio

Grant Chemical Co.  
Boston, Mass.  
J. H. Hinz Company  
Cleveland 13, Ohio  
Harry Holland & Son, Inc.  
Chicago 6, Ill.  
R. L. Kelley  
Danbury, Conn.

J. G. Roger Chemical Co., Inc.  
Baltimore 23, Md.  
H. C. Ross  
Burbank, Cal.  
E. M. Walls Company  
San Francisco, Cal.

## Firms Whose Products Appear in List of Synthetic Detergents and Emulsifiers

(Four part listing concludes on Page 67)

- Advance Solvents & Chemical Corp., 245 Fifth Ave., New York 16, N. Y.  
Air Reduction Chemical Co., 60 E. 42nd St., New York 17, N. Y.  
Alframine Corp., 72 Putnam St., Paterson 4, N. J.  
Allied Chemical & Dye Corp., 61 Broadway, New York 6, N. Y. (See National Aniline Division).  
Alox Corp., Buffalo Ave. & Iroquois St., Niagara Falls, N. Y. (A subsidiary of Surpass Petroleum Co., Toronto, Ont., Canada.)  
Amalgamated Chemical Corp., Rorer & Ontario Sts., Philadelphia 34, Pa.  
American Alcolac Corp., 3440 Fairfield Rd., Fairfield, Baltimore 26, Md.  
American Aniline & Extract Co., Venango & F Sts., Philadelphia 34, Pa.  
American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y.  
American Lecithin Co., 57-01 32nd Ave., Woodside, N. Y.  
Angus, W. W., Inc., 220 Broadway, New York 38, N. Y. (Sales agency for Treplow Products, Paterson, N. J.)  
Antara Chemicals, a sales division of General Aniline & Film Corp., 435 Hudson St., New York 14, N. Y.  
Apex Chemical Co., 225 W. 34th St., New York 1, N. Y.  
Arkansas Co., 185 Foundry St., Newark 1, N. J.  
Armour & Co., Union Stock Yards, Chicago 9, Ill.  
Arnold, Hoffman & Co., 55 Canal St., Providence 1, R. I. (A subsidiary of Imperial Chemical Industries, Ltd., England)  
Atlantic Refining Co., 260 S. Broad St., Philadelphia 1, Pa.  
Atlas Powder Co., Wilmington 99, Del.  
Atlas Refinery, Inc., 142 Lockwood St., Newark 5, N. J.  
Beacon Chemical Industries, Inc., 33 Richdale Ave., Cambridge 40, Mass.  
Blockson Chemical Co., Joliet, Ill. (A Division of Olin Mathieson Chemical Corp., Baltimore, Md.)  
Burkart-Schier Chemical Co., Chestnut & 13th Sts., Chattanooga 2, Tenn.  
Carbide & Carbon Chemicals Co., 30 E. 42nd St., New York 17, N. Y. (A division of Union Carbide and Carbon Co.)  
Carlisle Chemical Works, Inc., West St., Reading 15, O.  
Carlstadt Chemical Co., 430 13th St., Carlstadt, N. J. (Manufacture to customer specifications only).  
Charlotte Chemical Laboratories, Inc., 1122 S. Blvd., Charlotte, N. C.  
Ciba Co., 627 Greenwich St., New York 14, N. Y.  
Cincinnati Chemical Works, Inc., 1055 Laidlaw Ave., Cincinnati 37, Ohio. (Manufacture to customer specifications only).  
Cleary, W. A. Corp., P. O. Box 749, New Brunswick, N. J. (See also Naftone, Inc.)  
Colgate-Palmolive Co., 105 Hudson St., Jersey City 2, N. J.  
Commercial Solvents Corp., 260 Madison Ave., New York 16, N. Y.  
Commonwealth Color & Chemical Co., 3240 Grace Ave., New York 67, N. Y.  
Dewey & Almy Chemical Co., 62 Whittemore Ave., Cambridge 40, Mass. (A division of W. R. Grace & Co., 3 Hanover Square, New York 4, N. Y.)  
Dexter Chemical Corp., 819 Edgewater Road, New York 59, N. Y.  
Diamond Alkali Co., 300 Union Commerce Building, Cleveland 14, O.  
Distillation Products Industries, 343 State St., Rochester, N. Y. (Division of Eastman Kodak Co.)  
Diversey Corp., 1820 Roscoe St., Chicago 20, Ill.  
Dow Chemical Co., Midland, Mich. (Also see Versenes, Inc.)  
Drew, E. F. & Co., 15 E. 26th St., New York 10, N. Y.  
Du Bois Co., 1120 W. Front St., Cincinnati 3, Ohio.  
Du Pont de Nemours, E. I. & Co., Wilmington 98, Del.  
Economics Laboratory, Inc., 914 Guardian Bldg., St. Paul, Minn.  
Emery Industries, Inc., 4300 Carew Tower, Cincinnati 2, O.  
Emil Greiner Co., 20 N. Moore St., New York 13, N. Y.  
Emkay Chemical Co., 319 Second St., Elizabeth, N. J.  
Emulsol Chemical Corp., 59 E. Madison St., Chicago 3, Ill. (A division of Witco Chemical Co., 122 E. 42nd St., New York 17, N. Y.)  
Esso Standard Oil Co., 15 W. 51st St., New York 19, N. Y.  
Fairfield Laboratories, 417 Cleveland Ave., Plainfield, N. J.  
Fallek Products Co., 165 Broadway, New York 6, N. Y. (Agents for Deutsche Hydrierwerke G.m.b.H., Duesseldorf, Germany)  
Fels & Co., 73rd St. & Woodland Ave., Philadelphia 42, Pa.  
Fine Organics, Inc., 211 E. 19th St., New York 3, N. Y.  
Finelex, Inc., P.O. Box 414, Pompton Plains, N. J.  
Gallowhur Chemical Corp., N. Water St., Ossining, N. Y.  
Fred'k. A. Stresen-Reuter, Inc., 3113 Medill Ave., Chicago 47, Ill.  
Geigy Industrial Chemicals, 89 Barclay St., New York 8, N. Y. (A division of Geigy Chemical Corp.)  
General Aniline & Film Corp., 435 Hudson St., New York 14, N. Y. (Manufacturing organization for Antara Chemicals.)  
General Mills, Inc., 400 Second Ave., South, Minneapolis 1, Minn.  
Girdler Co., 224 E. Broadway, Louisville 1, Ky. (Division of National Cylinder Gas Co.)  
Glyco Products Co., 350 Fifth Ave., New York 1, N. Y.  
Goldschmidt Chemical Corp., 153 Waverly Place, New York 14, N. Y.  
Goodrich Chemical Co., B. F., 2060 E. Ninth St., Cleveland 15, O.  
Griffin Chemical Co., 1000 Sixteenth St., San Francisco 7, Calif. (A division of Nopco Chemical Co., Harrison, N. J.)  
Hall, C. P. of Illinois, 5145 W. 67th St., Chicago 38, Ill.  
Hart Products Corp., 1440 Broadway, New York 18, N. Y.  
Hercules Powder Co., Wilmington 98, Del.  
Heveatex Corp., Melrose 76, Mass.  
Houghton, E. F. & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa.  
Hydrocarbon Chemicals, Inc., 130 Lister Ave., Newark 5, N. J.  
Imperial Chemical Industries (N.Y.), Ltd., 531 Fifth Ave., New York 17, N. Y. (See Arnold Hoffman & Co.)  
Industrial Raw Materials Corp., 52 Wall St., New York 5, N. Y.  
Jacques Wolf & Co., P. O. Box 839, Passaic, N. J.  
Kalide Corp., South Canal St., Lawrence, Mass.  
Kem Products Co., 229 High St., Newark 2, N. J.  
Kessler Chemical Co., State Rd. & Cottman Ave., Philadelphia 35, Pa.  
Laurel Soap Mig. Co., Tioga, Almond & Thompson Sts., Philadelphia 34, Pa.  
Lever Brothers Co., 390 Park Ave., New York 22, N. Y.  
Maguire Industries, Inc., 182-27 Liberty Ave., Jamaica 33, N. Y.  
Marathon Corp., Rothschild, Wis.  
Maywood Chemical Works, 100 W. Hunter Ave., Maywood, N. J.  
Metro-Atlantic, Inc., Centredale 11, R. I.  
Michel, M. and Co., 90 Broad St., New York 4, N. Y.



Build up Your  
**DEFENSE**  
Against  
**EXPENSE**

Start using  
**DREYER  
SYNTHETIC  
SCENTS**

The flatter you keep your production costs, the fatter you keep your profits.

That's no news to you.

It may be news that you can flatten production costs, and fatten profits, without hurting the quality that keeps business growing.

Dreyer can help you.

Dreyer *re-creates* all the exciting characteristics of natural flower odors and bouquets in Dreyer Synthetic Floral Creations and Perfume Concentrates. Dreyer Synthetics often surpass the natural—in stability, for instance, and long-lasting life.

Consider excellence, and consider costs. Chances are, you will then choose Dreyer.

Send for free samples, on your business letterhead.

DEPEND ON  
**DREYER**  
FOR  
**FLAVORS**  
**ESSENTIAL OILS**  
**AROMATIC**  
**CHEMICALS**

P. R. DREYER, INC. • 601 WEST 26TH STREET • NEW YORK 1, N. Y.

Miranol Chemical Co., 277 Coit St., Irvington 11, N. J.  
 Mona Industries, Inc., 65 E. 23rd St., Paterson 4, N. J.  
 Monsanto Chemical Co., 1700 S. Second St., St. Louis 4, Mo.  
 Moretex Chemical Products, 314 W. Henry St., Spartanburg,  
 S. C. (A division of Moreland Chemical Co.)  
 Morton-Withers Chemical Co., 2110 High Point Rd., Greensboro, N. C.  
 Naftone, Inc., 515 Madison Ave., New York 22, N. Y. (Sales agent for W. A. Cleary Corp.)  
 National Aniline Division, Allied Chemical & Dye Corp., 41 Rector St., New York 6, N. Y.  
 Ninol Laboratories, Inc., 1719 S. Clinton St., Chicago 16, Ill.  
 Nopco Chemical Co., 706 Industrial St., Harrison, N. J. (See also Griffin Chemical Co.)  
 Oil States Petroleum Co., 233 Broadway, New York 7, N. Y.  
 Onyx Oil & Chemical Co., Warren & Morris St., Jersey City 2, N. J.  
 Oronite Chemical Co., 38 Sansome St., San Francisco 4, Calif.  
 Peck's Products Co., 610 E. Clarence Ave., St. Louis 15, Mo.  
 Pedlow-Nease Chemical Co., Lock Haven, Pa.  
 Pennsylvania Refining Co., Butler, Pa.  
 Pennsylvania Salt Mfg. Co., 1000 Widener Bldg., Philadelphia 7, Pa. (See also Sharples Chemicals Division)  
 Perkins Soap Co., Springfield, Mass. (A division of Berkshire Color & Chemical Corp.)  
 Perry Brothers, Inc., 61-62 32nd Ave., Woodside 77, N. Y.  
 Petrochemicals Co., 1825 Spring St., Long Beach 6, Calif.  
 Procter & Gamble Co., Gwynne Bldg., Cincinnati 1, O.  
 Progressive Color & Chemical Co., 350 Fifth Ave., New York 1, N. Y.  
 Protean Chemical Corp., 150 Nassau St., New York 38, N. Y. (See also Veriset Corp.)  
 Proven Products, P. O. Box 734, Peabody, Mass.  
 Puget Sound Pulp & Timber Co., Bellingham, Wash.  
 Purex Corp., 9300 Payo Ave., South Gate, Calif.  
 Quaker Chemical Products Corp., Conshohocken, Pa.  
 Refined Products Corp., 624 Schuyler Ave., Lyndhurst, N. J.  
 Remsen Chemical Co., Oceanside, N. Y.  
 Riches-Nelson, Inc., 342 Madison Ave., New York 17, N. Y.  
 Robinson Wagner Co., 110 E. 42nd St., New York 17, N. Y.  
 Rohm & Haas Co., Washington Square, Philadelphia 5, Pa.  
 Sandoz Chemical Works, Inc., 61 Van Dam St., New York 13, N. Y.  
 Sharples Chemicals, 3 Penn Center Plaza, Philadelphia 2, Pa. (A division of Pennsylvania Salt Mfg. Co.)  
 Shell Chemical Corp., 50 W. 50th St., New York 20, N. Y.  
 Shell Petroleum Co., St. Helene Court, London E. C. 3, England, (See above.)  
 Sinclair Chemicals, Inc., 600 Fifth Ave., New York 20, N. Y.  
 Sonneborn, L. Sons, Inc., 300 Fourth Ave., New York 10, N. Y.  
 Stanco, 15 W. 51 St., New York 19, N. Y. (See Esso Standard Oil Co.)  
 Standard Chemical Co., 217 New St., Philadelphia 6, Pa.  
 Stspan Chemical Co., 20 N. Wacker Drive, Chicago 6, Ill.  
 Sterwin Chemicals, Inc., 1450 Broadway, New York 18, N. Y. (A subsidiary of Sterling Drug, Inc.)  
 Sun Chemical Corp., 10th St. & 44th Ave., Long Island City, N. Y. (See Warwick Chemical Co.)  
 Swift & Co., Union Stock Yards, Chicago 9, Ill.  
 Synthetic Chemicals Inc., 335 McLean Blvd., Paterson 4, N. J.  
 Synthron, Inc., Ryan Ave., Ashton, R. I.  
 Tennessee Corp., 617 Grant Bldg., Atlanta 1, Ga.  
 Theobald Industries, P. O. Box 72, Harrison, N. J.  
 Titan Chemical Products, Inc., Mill Rd. & Wayne St., Jersey City 6, N. J.  
 Treplow Products, Inc., 59 Camden St., Paterson, N. J.  
 Turco Products, Inc., 6135 S. Central Ave., Los Angeles 1, Calif.  
 Turner, Joseph & Co., Ridgefield, N. J.  
 Ultra Chemical Works, Inc., 2 Wood St., Paterson 4, N. J.  
 Universal Detergents, Inc., 1825 E. Spring St., Long Beach 6, Calif.  
 Vanderbilt, R. T. Co., 230 Park Ave., New York 17, N. Y.  
 Van Dyk & Co., 11 William St., Belleville 9, N. J.  
 Varley & Sons, James, Inc., 1200 Switzer Ave., St. Louis 15, Mo.  
 Veriset Corp., 150 Nassau St., New York 38, N. Y. (See also Protean Chemical Corp.)  
 Versenes, Inc., Framingham, Mass. (Formerly a subsidiary, later absorbed by Dow Chemical Co.)  
 Vestal, Inc., 4963 Manchester Ave., St. Louis 10, Mo.  
 Victor Chemical Works, 141 W. Jackson Blvd., Chicago 4, Ill.  
 Warwick Chemical Co., 10th St. & 44th Ave., Long Island City 1, N. Y. (A division of Sun Chemical Corp.)  
 White Laboratories, Inc., Kenilworth, N. J.  
 Wica Chemicals, Inc., P. O. Box 506, Old Concord Rd., Charlotte, N. C.  
 Winthrop-Stearns, Inc., 1450 Broadway, New York 18, N. Y. (A division of Sterling Drug, Inc.)  
 Witco Chemical Co., 122 E. 42nd St., New York 17, N. Y. (See also Emulsol Chemical Corp.)  
 Wyandotte Chemicals Corp., 1609 Riddle St., Wyandotte, Mich.

## Resistance To DDT

Fruit flies appear to develop resistance to DDT after 12 generations have been exposed to it. A fruit fly generation is about 14 days long. This was reported by James C. King at the Biological Laboratory of the Long Island Biological Association, Cold Spring Harbor, where geneticists and others interested in evolution and breeding met last month to discuss "Population Genetics: The Nature and Causes of Genetic Variability in Populations."

Dr. King said it was believed that five or six flies in each thousand or more happen to be slightly different in some unknown factor which makes them more resistant to DDT. Insects sensitive to DDT are killed in the studies. This leaves

alive the slightly resistant flies, which then mate. Again only a few—perhaps five or six in a thousand or more—will be a little more resistant than the rest.

This selection of a second degree of resistance among the offspring of the survivors of the first study may represent a different factor (still unknown), that contributes to resistance, Dr. King said. After completion of twelve experiments strong DDT resistance was demonstrable in the survivors.

The resistance to the insecticide exhibited by these insects is unusual, Dr. King said, in that it persists in the insect populations. Usually flies selected for a particular trait gradually die out because they have lost some other factor which contributes to their tough-

ness. With DDT resistance this is not the case.

## Velsicol Changes Name

Velsicol Chemical Corp. is the new corporate name of the firm formerly known as Velsicol Corp., a division of Arvey Corp., Chicago. The change denotes that the company now has its own corporate structure and came into force in September. At the same time the firm announced the following title changes for its executives: J. Regenstein, Jr., former vice-president becomes president; E. T. Collingsworth, Jr., former vice-president and general manager is now executive vice-president and general manager. Main offices and research facilities remain in Chicago.



If there's Du Pont Ludox® in your wax



With "Ludox," Du Pont's anti-slip ingredient, the danger of slipping or sliding on waxed floors is greatly reduced.

The tiny transparent particles of "Ludox" impart a unique "snubbing" action to the wax film, retard the shifting of wax particles under foot pressure (see diagram).

Waxes properly formulated with "Ludox" still retain their high gloss, water resistance, and leveling properties.

To help you sell your waxes containing "Ludox," Du Pont offers you a new, 4-color booklet for your 1955 promotional programs.

E. I. du Pont de Nemours & Co. (Inc.), Grasselli Chemicals Dept., Room N-2539, Wilmington 98, Del. In Canada: Du Pont Company of Canada Limited, Box 660, Montreal.



BETTER THINGS FOR BETTER LIVING  
... THROUGH CHEMISTRY

For safety underfoot, specify floor wax made with  
**LUDOX®**

Colloidal Silica

SOAP and CHEMICAL SPECIALTIES

### **As the Reader Sees It**

(From Page 39)

preciate good reconditioned drums, and they do not use "junk." Furthermore, you will find that many of these companies maintain their own drum reconditioning facilities—also not for the production of "junk."

We would be happy to furnish editorial material to your staff on modern drum reconditioning.

We trust you will publish this letter and give it the same publicity as your criticism of our industry.

MORRIS HERSHON, president,  
National Barrel and Drum  
Association,  
Washington, D. C.

*Our criticism, based on personal observation, was directed at poor quality drums used by some specialties manufacturers for bulk shipments of their products. We have no quarrel with those people who sell or use properly reconditioned drums. Naturally, there are in use good looking reconditioned drums in addition to the new ones and the "junky drums." We put the word reconditioned in quotes to distinguish between those that are properly reconditioned and those that are re-used, sometimes with nary a coat of paint.—Ed.*

— ★ —

### **Messy Fly Sprays**

Editor:

The article entitled "Fly Control on Livestock . . . Does it Pay?" which appeared in the June issue of *Soap and Chemical Specialties* is of interest, primarily due to its many inaccuracies. For instance, Gnadinger is quoted as saying that "until about 1926 the best sprays on the market were mixtures of petroleum oils with varying amounts of coal-tar, creosote oil, naphthalene . . ." He then speaks of the advent of pyrethrum, method of extraction, etc.

May I suggest that the author and Gnadinger refer to the Brief for Defendant in the case of Terry Fly Spray Co. vs. John B. Rosenfield Doing Business As An-Fo Manufacturing Co., in the Southern Division of the United States Court for the Northern District of California, dated Nov. 7, 1929.

This brief mentions methods used to extract pyrethrin which date back to April 1919 in the case of "Flyosan," manufactured by Colonial Chemical Corp., which company was headed by the writer. At no time were the so-called heavy petroleum oils used.

"Flyosan" was in wide use in the larger dairy barns in the country. A high percentage of sales can be traced to the dairy industry. Remember, this was in 1919. . . . Actually, I was making the same compound while serving in the U. S. Navy (1917-1919) during World War I.

Quotation from defendant's brief follows: "While stationed at the Philadelphia Navy Yard he (Plowfield, pharmacist mate, 1st Class) made and used the insecticide which was later to become "Flyosan." At about the time he (Plowfield) left in April 1919, he informed the Navy Yard officials how it was made."

In 1917 "Walkers Devilment," as produced by Southern Specialty Co., of Thomasville, Ga., was also quite popular with the dairy interests in the South. "Fly-Flu" produced by A. O. Chemical Co., Ocilla, Ga., in 1919-1920 did not contain any of the messy ingredients mentioned by Gnadinger. "Komo" fly liquid, manufactured in Philadelphia from a formula furnished by me during my war service was another such product. "Flyosan" unquestionably pioneered the fly-spray and insecticide fields without messy ingredients.

The record should be cleared.

BILL PLOWFIELD,  
Manufacturers Agent  
Philadelphia.

### **Trace of Chagrin**

Editor:

I must confess to more than a trace of chagrin upon observing that our paper, "A Method for Testing Self-Disinfecting Surfaces," will probably never be read in toto by readers of the August issue of *Soap & Chemical Specialties*.

At the end of page 138 the readers are directed to page 165 for a continuation of the method and find themselves in the middle of the bibliography. It took a considerable search between advertising matter to find page 163 on which the article is actually continued.

SAUL KAYE, Chief  
Decontamination Branch  
Physical Defense Division,  
Camp Detrick,  
Frederick, Md.

*To Mr. Kaye, coauthors R. K. Hoffman and S. B. Yeager and other readers who may have had difficulty in finding the jump page, our apologies. Trying to keep continuations straight is an editor's nightmare. We check these closely, but occasionally there is a slip-up, which is what happened in the case of Mr. Kaye's fine contribution. We are publishing his letter to call attention to the incorrect continuation line in case our readers are still looking.—Ed.*

### **Dermatitis Booklet**

Editor:

Please send me information as to how I may obtain a copy of the booklet entitled "The Prevention of Occupational Disease," which was mentioned in your editorial in the September 1955 issue of *Soap and Chemical Specialties*.

JOHN T. FOLEY, Plant Chemist,  
Lightfoot Schultz Co.  
Hoboken, N. J.

*The news item referred to by Mr. Foley has brought a number of similar inquiries. Copies of the booklet are available from the Association of American Soap and Glycerine Producers Inc., 295 Madison Avenue, New York 17, N. Y.*

### **New "Freon" Rep.**

Robert A. Geuting has been appointed sales representative for "Freon" aerosol propellants in the Cleveland area, it was announced last month by the Kinetic Chemicals Division of E. I. du Pont de Nemours & Co., Wilmington, Del. He will report to the Chicago district office of the division. Having joined the division in February 1954 as a sales trainee, Mr. Geuting had been assigned to propellant sales for the past five months working out of the Wilmington office.



## Use our experience to improve your insecticide profits!

Almost every week someone discovers new methods and new ingredients for improving quality and cutting the cost of insecticides. In the allelathrin field this progress is so rapid that formulas should be frequently reviewed. Formula costs can often be lowered or formulas made more effective without raising the cost.

### USE OUR ANALYSIS SERVICE

Our technical experts will, if you request, check your formulas. A thorough study may suggest ways of increasing insecticidal efficiency and may save you money. This will show exactly how much the newest developments can do to make your product more effective. This service is free.

### THERE'S NO OBLIGATION

Without obligation, you have the benefit of MGK's 50 years in business—experience that includes manufacturing, testing and formulating most of the allelathrin used to date. Some 32 million aerosols and many thousands of gallons of sprays containing allelathrin—all highly satisfactory to manufacturers and users—give further proof of MGK's know-how. This know-how is yours for the asking.

Since packing for the next year will begin soon, we suggest that you send your formula now for analysis.

**McLAUGHLIN GORMLEY KING COMPANY**  
MINNEAPOLIS 14, MINNESOTA

---

## Glass Aerosols

(From Page 165)

---

non-aerosolized methods of application  
5. reduction of potential irritation and toxicity hazards of certain chemicals sprayed in the nebulized form of conventional aerosols.

Chemical and bacteriological tests carried out with several representative types of antiseptics and disinfectants indicate marked stability and retention of effectiveness for the various products tested.

These factors all point to fulfilment of the anticipation we hold for the second decade of further progress in aerosols upon which we have recently embarked.

---

## Wearing Quality

(From Page 169)

---

activity of the soap formed. It was found that by heating the emulsion to about 150°F and then adding the "hot" cobalt stearate, a uniform solution was obtained. The emulsion may "jell" upon cooling; however, if the wax preparation is warmed slightly, a solution is again obtained. The emulsion can be applied in this warm state.

Specific tests can now be made to determine the wearing resistance of such a wax. The sample to which the wax is applied should be large enough to fit into the polystyrene holder containing the G-M tube. These slides when put into the same position will maintain the same geometry at all times. A blank slide should first be placed into the holder to determine the "background" due to cosmic radiation. This background must be subtracted from the count recorded. The "hot" wax preparations should be kept behind a lead barrier so as not to interfere with the determination being made. Tests such as standing water, spraying water, walking, weather and detergents are few of the tests which can be utilized to a specific surface. The effect of a wax on various surfaces can also be

studied, for example, the wearing resistance of furniture types of wood.

In the case of floor waxes, the gloss of the surface can also be obtained. This can be correlated to the loss of activity as the test is being performed. However, one must remember that gloss is a microphysical quantity and that activity is dependent upon the mass of wax. Thus graphs can be obtained by plotting and weight of wax against the number of times the test was performed. One then has a visual picture to compare the wearing qualities of various waxes of the same or different types.

As can be seen from the above, a unique method is outlined for the study of waxes, where in many cases, the conventional method of testing failed or was unsatisfactory. This method is so sensitive that the loss of any wax is easily noted by the G-M tube. This is just one of the many applications of radioisotopes to industrial problems.

---

## Acknowledgement

This work was sponsored by a grant from S. C. Johnson & Son, Inc. The author wishes to acknowledge the assistance of E. S. McLoud of S. C. Johnson & Son, Inc., in reviewing this article.

---

## Trade Marks

(From Page 113)

---

**Gordon's Permasil**—This for cleaning and polishing liquid preparation for automobiles. Filed July 20, 1954 by Milton J. Gordon Co., Glassport, Pa. Claims use since June 21, 1954.

**gleam**—This for cleaning and polishing liquid for furniture, wood-work and household dusting. Filed Nov. 19, 1954 by Gulf Oil Corp., Pittsburgh. Claims use since on or about Sept. 23, 1924.

**Gemini**—This for mitts impregnated with a silver cleaning and polishing preparation. Filed Jan. 20, 1955 by Cadie Chemical Products, Inc., New York. Claims use since Dec. 9, 1954.

**Gy-Fume**—This for insecticides. Filed Aug. 6, 1954 by Geigy Chemical Corp., New York. Claims use since Oct. 25, 1949.

**Aerodent**—This for dentifrice. Filed July 27, 1954 by Carter Products, Inc., New York. Claims use since June 1, 1954.

**Champoo**—This for shampoo

and toilet soap. Filed Feb. 26, 1953 by James L. Younghusband, to Timothy Titus Morrow, Chicago. Claims use since June 20, 1952.

**Shot-Treat**—This for graphite pellets for use in cleaning internal combustion engines. Filed Apr. 7, 1954 by Standard Oil Co., Cleveland. Claims use since about Dec. 1, 1953.

**Kee**—This for detergent in powder form for use in washing clothing, piece goods, dishes, and other washable items. Filed May 5, 1954 by American Stores Co., Philadelphia. Claims use since Feb. 17, 1954.

**AD**—This for sudsing cleaner, cleanser, and detergent. Filed May 5, 1954 by Colgate-Palmolive Co., Jersey City, N.J. Claims use since Apr. 1, 1954.

**Breakwater**—This for bath and toilet soap. Filed June 16, 1954 by Rehoboth Products Co., Rehoboth Beach, Del. Claims use since Sept. 4, 1953.

**Chlorbisan**—This for germicidal composition and germicides for use in soap and non-soap detergent compositions. Filed July 8, 1954 by Norda Essential Oil & Chemical Co., New York. Claims use since Apr. 1, 1954.

**Rosamel**—This for toilet soap. Filed Aug. 5, 1954 by Swift & Co., Chicago. Claims use since in or about 1914.

**Ker-Chro-Mite**—This for acid cleaning solution. Filed Oct. 28, 1954 by Kosmos Electro-Finishing Research, Inc., Belleville, N. J. Claims use since on or about Aug. 5, 1954.

**Swift's Arrow**—This for soap. Filed Jan. 3, 1955 by Swift & Co., Chicago. Claims use since since 1914. Subj. to intf. with SN 631,687.

**Rosebud**—This for complexion and toilet soap. Filed Mar. 9, 1955 by Rosebud Perfume Co., trusteeship under the will of George F. Smith, Woodsboro, Md. Claims use since June 1, 1908.

**Macco**—This for metal cleaning compounds. Filed Jan. 10, 1955 by Macco Products Co., Chicago. Claims use since Apr. 1, 1931.

**Cleaner Than Clean**—This for soaps and detergent compositions for general cleaning purposes. Filed Dec. 10, 1953 by Fuld Brothers, Inc., Baltimore. Claims use since Nov. 30, 1953.

**Pero-Klean**—This for chemical cleaning compositions for use in the marine and industrial fields. Filed Feb. 9, 1955 by Perolin Co., New York. Claims use since Feb. 1, 1939.

**Florco**—This for non-slip floor polish. Filed May 25, 1953 by Walter G. Legge Co., New York. Claims use since May 5, 1953.

**Sil**—This for combination silver cleaner and polisher. Filed Sept. 2, 1954 by Donnell W. Wright, doing business as Sil Products, San Bernardino, Calif. Claims use since January 1951.

**The Red Cross Nurse**—This for liquid household germicide. Filed Apr. 15, 1954 by J. Hubbard & Co., Nashua, N. H. Claims use since October 1902.

**Fly Flake**—This for granular insecticide. Filed Apr. 22, 1954 by Wilson & Toomer Fertilizer Co., Jacksonville, Fla. Claims use since Apr. 12, 1954.

Dawn of a Great Day in Perfumery-

# VERSALIDE\*

A New Musk Body

VERSALIDE is a new and uniquely different type of musk—the product of more than two years of extensive research and testing. Its development by Givaudan opens up fresh fields of opportunity for creative perfumery.

Versalide has an intense, sweet odor that lends to a perfume all the enhancement, sweetness, strength and fixation expected only from the macrocyclic musks.

Its versatility is almost unlimited, and its advantages are both numerous and practical. A pure chemical body, not a mixture, it is produced in unvarying quality from readily available materials.

Versalide is extremely economical. It is stable to light, air, heat, alkali, does not discolor soap, is not an irritant or sensitizer to the human skin, and is safe for all cosmetic preparations. It is also useful as an alcohol prefixer.

Here is an outstanding new material with an exciting potential. May we give you samples and further information on Versalide?

**GIVAUDAN-DELAWANNA, INC.**  
330 West 42nd Street, New York 36, N. Y.

Branches: Philadelphia • Boston • Cincinnati • Detroit  
Chicago • Atlanta • Seattle • Los Angeles • Toronto

\*Patent Pending

Leaders in Aromatic Chemical Research

# News

## West Advances Flatow

William Flatow, Jr., for the past two years assistant general sales manager of West Disinfecting Co.,



William Flatow, Jr.

Long Island City, N.Y., was recently elected assistant secretary of the company. He has been with West since 1937, when he joined the firm as a salesman. Previously he had been with Stern Brothers, New York department store.

## Paul Sullivan Teaching

Paul Sullivan, son of Mrs. E. D. Sullivan, assistant secretary of the Chemical Specialties Manufacturers Association, has been appointed a teacher at Cleveland Junior High School, Elizabeth, N.J. He is teaching English, history and social studies. Mr. Sullivan received an M.A. degree last June from Fairfield College, Fairfield, Conn.

## New Aerosol Consultants

Formation of Aerosol Process Co., Bridgeport, Conn., was announced last month by W. H. Reed, president and technical director of the new organization. The company offers consulting, research, testing, and a range of related services to current and potential makers of pressure packaged products.

Dr. Reed was previously associated with Bridgeport Brass Co., where he served as assistant chief

chemist in charge of aerosol propellant research. Vice-president of the new firm is John W. Eldridge, former associate professor of chemical engineering at the University of Virginia.

## CSMA Mid-Yr. Proceedings

Proceedings of the 41st mid-year meeting of the Chemical Specialties Manufacturers Association, held last May in Chicago, is now available in printed form. Transcripts of 65 papers, in addition to reports of 1954 surveys of aerosol, insecticide, and brake fluid production, are included in the 216-page spiral bound booklet. Individual copies are \$7.50 per copy in the United States and \$8.00 outside the continental U.S. Orders should be addressed to H. W. Hamilton, CSMA secretary, at 50 East 41st Street, New York 17, N.Y.

## Campbell Joins Velsicol

C. E. Campbell, former director of research extension for United Fruit Co., Boston, was appointed recently as technical representative for the Washington, D.C., area by Velsicol Corp., Chicago. He is responsible for maintaining contact between his firm and the various agencies of the federal government. A graduate of Dartmouth, Mr. Campbell received his masters degree from Cornell. He has served

Dr. Winston H. Reed



on the research and extension staff at Cornell and was with R. T. Vanderbilt Co., New York, in technical sales development of agricultural fungicides.

## DeNapoli M-Y Director

Gerard R. DeNapoli, technical director and plant manager of



Gerard R. DeNapoli

Masury-Young Co., Boston, has been elected to the board of directors, it was announced recently. A graduate of Northeastern University, where he received a B.S. degree in chemical engineering in 1941 and a B.A. degree in engineering and management in 1950, he has been with Masury-Young since 1948. Prior to that he managed a synthetic resin plant in Cambridge, Mass. Mr. DeNapoli has been technical director of his company for the past seven years and three years ago was given the additional duties of plant manager.

He is a member of the American Chemical Society, the Chemical Specialties Manufacturers Association, the American Society for Testing Materials and the New England Paint & Varnish Club. At the 41st mid-year meeting of C.S.M.A. in May he was elected to serve on the administrative committee of the Waxes and Floor Finishes Division in 1956. Mr. DeNapoli is also chairman of the subcommittee on floor waxes of Committee D-21 on Wax Polishes and Related Materials of the American Society for Testing Materials.

*Weary  
Products?*



*Refresh with  
SCIENTIFIC RESEARCH  
by SNELL*

**FOR PROFITS-PROGRESS-PRESTIGE**

Whether

It

Be



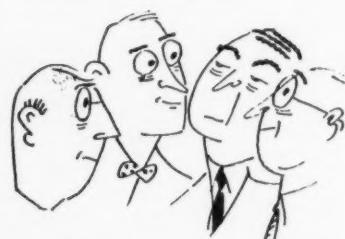
**FORMULATING-PROCESSING-PACKAGING-MARKETING**

we bring you the full benefit of scientific "Know-How" including compatibility of the newest ingredients.

We

Invite

You



to Confer without Cost or Obligation.

**Foster D. Snell, Inc.**

RESEARCH LABORATORIES  
CHEMISTS • ENGINEERS  
29 W. 15 St. New York 11, N. Y.  
WA 4-8800



**HARCHEM**®  
CENTURY BRAND

NOW THE KEY  
TO  
UNIFORM QUALITY  
IN

# Fatty Acids

Harchem **CENTURY BRAND** Fatty Acids are the key to quality in your products. Look for the Harchem Key. It now identifies the oldest name in Fatty Acids.

**STEARIC ACID**

**OLEIC ACID**

**HYDROGENATED FATTY ACIDS**

**TALLOW FATTY ACIDS**

**VEGETABLE FATTY ACIDS**

**HYDROGENATED GLYCERIDES**

**HYDROGENATED CASTOR OIL**

**12 HYDROXY STEARIC ACID**

H-7-A

**HARCHEM DIVISION**  
WALLACE & TIERNAN, INC.

SUCCESSOR TO: W. C. HARDESTY CO., INC.  
25 MAIN STREET, BELLEVILLE 9, NEW JERSEY

## CSMA Luncheon Told of Europe's Economy

ECONOMIC and social conditions in Europe were the subjects of a panel discussion at a luncheon, Sept. 28, of members of the Chemical Specialties Manufacturers Assn. preceding the fall meeting of the board of governors of CSMA. The luncheon and meeting were held at the Savoy Plaza Hotel, New York. Participating in the discussion were W. S. Jessop of U. S. Sanitary Specialties Corp., Chicago; George W. Fiero, Esso Standard Oil Co., New York, and Abraham Weiner, Standard Chlorine Chemical Co., South Kearny, N. J. All three men had visited England and the Continent during the past summer.

Mr. Jessop commented on the economic situation in England, which he termed "good"; juvenile delinquency, and the role of the various trade associations covering the chemical specialties, soap and detergent and chemical industries.

The aerosol industry in Europe is about five years behind that of the U. S., according to Mr. Fiero. Aerosol insecticides are to be found all over Europe, but the total volume is still small, he said. Aerosol shave creams abroad are still considered a novelty, Mr. Fiero pointed out.

Economic conditions prevailing in Europe are quite similar to those in the U. S., Mr. Weiner pointed out, adding that he expected prosperity to continue in Europe at least through 1956. He termed the recovery in Germany "amazing" and commented on how hard German executives are working. That country has good technicians and its salesmen are going all over the world, he said. The Germans are very industrious, according to Mr. Weiner, and Germany is a force to be reckoned with in world markets—more than most people realize, he added.

In Belgium and Switzerland economic conditions are good, Mr. Weiner stated. In all parts of Europe industry is beginning to spend money on new plants, which he be-

lieves is an indication of what business people think of the future.

He termed Russia a big question mark. If that country re-enters the coal tar picture and "dumps" its products it may cause the reformation of cartels and a revision of thinking, Mr. Weiner concluded.

A final feature of the luncheon program was a talk by J. S. Fassett of the American Hotel Association on the subject of the adoption of standards for products bought by its members. The AHA is considering asking the American Standards Association to aid in setting up specifications for products including chemical specialties, Mr. Fassett reported. A meeting to bring together manufacturers and consumers of cleaning materials and supplies under the auspices of the American Standards Association was held early this month. Its purpose was to explore the possibility of establishing a project to develop standards for these materials. Accord-

### New Magazine . . .

Starting in January, 1956, a new monthly magazine for jobbers and distributors in the sanitary supply and janitor supply trades will make its appearance. The new publication will be known as SANITATION AND MAINTENANCE SUPPLIES and will deal primarily with sales, distribution, warehousing and similar matters. It will cover the field of sanitary chemicals, cleaning supplies, and maintenance equipment. Publishers are the MacNair-Dorland Co., N. Y., who are also publishers of SOAP & CHEMICAL SPECIALTIES. A wide growth in the field of sanitation and maintenance supply distribution, as well as an increase in the number of firms in the field, is responsible for launching this new publication. It will cover all jobbers every month.

ing to Mr. Fassett the standards would be written based on the procedures of the ASA following round table discussions at which all objections would be considered. Neither ASA nor the American Hotel Association would write the standards, Mr. Fassett explained.

— ★ —

### Zonite May Change Name

Zonite Products Corp., New York, has called a special stockholders' meeting for Nov. 3 to consider a change in the name of the firm. In addition, the meeting will consider authorization of an incentive stock option plan for certain officers and employees of the corporation.

At the same time Zonite announced the appointment of S. M. Smith as treasurer of the Lady Ester division.

— ★ —

### "Prentox" Label Outline

A new "Prentox" information bulletin was issued in September by Prentiss Drug & Chemical Co., 110 William Street, New York 38. A suggested label outline is given for "Prentox" pyronyl dust concentrate in combination with rotenone and fungicides. Copies are available.

— ★ —

### Heads Seil, Putt, Rusby

Stephen S. Voris has been appointed president of Seil, Putt & Rusby, Inc., New York, analytical, consulting and research chemists, it was announced in September. He succeeds the late Earl B. Putt. Dr. Voris had been the firm's chief chemist and research director since 1948.

— ★ —

### New Johnson Unit

S. C. Johnson & Son, Inc., Racine, Wis., has bought 45,000 square feet of land in Stowe Township, Pa., to build a sales and distribution center, it was announced recently. A 13,000 square feet building will be erected on the property. James Bunting, Johnson district sales manager, will be in charge of the operations to be housed in this building.

VOLUME  
SALES

BIGGER  
PROFITS

CUSTOMER  
SATISFACTION

YOURS

WHEN YOU STOCK  
AND SELL...

OXCO *Superior X* DUSTER

Customers want quality—and the Superior "X" Duster is the quality leader of a wide variety of Oxo dusters. The "Master Blend" filling of Saran and stiffest grade horsehair has been proven by independent laboratory tests to last 3 times longer than regular filling materials. Also available are dusters with all-horsehair, horsehair and fibre, plastic, and fibre fillings. Beaver tail handle gives a firm grip and hanging ring makes storage easy.

**STOCK THE COMPLETE LINE OF OXCO QUALITY DUSTERS** to meet your customers' needs—rugged industrial styles; efficient household styles; long handled wall and venetian blind models. Your customers know the dependability of the name OXCO

from continuous *National Advertising* in trade and consumer magazines such as BETTER MAINTENANCE, INSTITUTIONS and SATURDAY EVENING POST. They look to Oxo for top quality and wear in dusters, floor sweeps, window brushes and many other styles.

Plan now to get more sales, bigger profits and better customer satisfaction — call in your Oxo man and see our complete line.



OX FIBRE BRUSH COMPANY, INC.  
FREDERICK Established 1884 MARYLAND

Bases of  
Uniform  
Stability  
Hold fragrance

W. J. BUSH & CO., Inc.

Essential Oils

19 West 44th STREET, NEW YORK 36, N. Y. • MURRAY HILL 7-5712

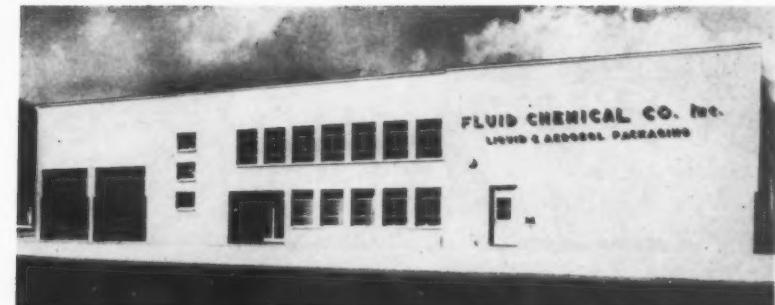




Aldo Pero

#### Pero Fluid Chem. V. P.

Aldo Pero has been appointed vice-president in charge of sales for Fluid Chemical Co., Newark, N. J., it was announced late last month by Edmund D. Bennett, president. The new vice-president will head and coordinate all of the firm's activities in the field of contract combination packaging and high-speed automatic filling of aerosols. Prior to joining Fluid Chemical, Mr. Pero served as general manager of Precision Extruders, Inc., Leominster, Mass.,



Modern contract aerosol filling and packaging plant of Fluid Chemical Co. and as assistant to the vice-president of Shaw Insulator Co., Irvington, N. J. From 1946 to 1950 he had headed his own company, Apsco, Inc., Bloomfield, N. J.

Fluid's pressure packaging equipment includes facilities designed exclusively for glass aerosols. Check-point inspection methods are

maintained on all filling lines.

The firm's warehouse features modern materials handling equipment including a conveyor system for completely automatic loading. Railroad siding facilities handle up to nine freight cars at a time and there is a separate truck loading area.

"Fortress" model dispensers. The seat covers are made of white paper which disintegrates rapidly in water and thus precludes all danger of clogging. Large in size, "Shieldor" covers feature a center flap that insures automatic self-disposal, when the toilet is flushed. The product comes in an envelope pack holding 250 folded individual covers and is said to fit all single fold pad style dispensers.

The "Fortress" model dispenser comes in "Hi-Impact" styrene, said to be exceptionally impact resistant. It is available in white and chrome finish. On special order it can be supplied in pastel or stand-

ard colors to match fixture colors. The tapered top prevents placing of burning cigarettes on top of the dispenser. A self-locking device automatically locks the envelope pack into position, eliminating need for locks, springs, etc. The units can be installed on marble or tile with a special bar attachment and a new white adhesive eliminating the need for drilling holes.

Clark products are distributed on a national basis through sanitary supply jobbers. Further information is available from the company at 5851 Holmes Avenue, Los Angeles 1.

#### Clark Heads New Firm

Formation of Clark Paper Converting Corp., Los Angeles, was announced last month by Louis Clark, president of the new firm, and former president of Potlatch Forrest, Inc., Pomona, Calif. At the same time Mr. Clark introduced the firm's new "Shieldor" brand paper toilet seat covers and new

Louis Clark



New detergent proportioner of Boxer Mfg. Corp., St. Louis, attaches directly to faucet. An adjustable screw type meter pin permits setting the amount of detergent required for each individual operation. Finished in high polish chrome, unit has no springs or ball bearings. Adapters are available for using device with any type sink.





## SPOTLIGHT ON...



FOR many years chemists have been searching for a wax that would form clear, transparent emulsions with nonionic emulsifiers.

The advantage of nonionic wax emulsions is that they are much more compatible than conventional anionic formulations. This is especially important because of today's trend in using many different types of resins, polymers and other additives. Furthermore, many surfaces such as rubber tile, asphalt tile and leather may be adversely affected by the alkalinity and reactivity of anionic compositions.

Nonionic wax emulsions are generally considered to be far more resistant to temperature changes, especially freezing. They can be combined with a wide range of organic dyestuffs, where heretofore the chemist was limited in his choice of colors.

NOW the hard, high melting **DUROXON H-III** Wax is available in any quantity to produce nonionic and anionic dry-bright emulsions of outstanding performance. **More slip-resistant too!**



**TRY DUROXON H-III WAX AND SEE FOR YOURSELF!**

Exclusive Importers and Distributors



DURA COMMODITIES CORPORATION

SYNTHETIC WAXES  
CHEMICAL PRODUCTS

20 Vesey Street, New York 7, N.Y.

Telephone: Digby 9-2570

### New Seaquist Valve

Seaquist Manufacturing Corp., Cary, Ill., recently added a new aerosol valve to its line. Valve "#750-NN" is made of non-corrosive plastic, can be shipped without a spray button or with a button of custom design. A sealing and retaining ring on the valve stem prevents leaks and the loss of the spray button during consumer use. These features are said to result in low seepage rate through the valve, consistent delivery rate, adaptability to great amounts of methylene chloride, and versatility. The valve is suggested for use with insecticides, deodorants, shaving creams, and other pressure packaged consumer products.

### U.S.P.H.S. Experts to WHO

Two staff members of the Communicable Disease Center of the U. S. Public Health Service at Savannah, Ga., left for Europe on Sept. 24 on temporary assignments with the World Health Organization. Kenneth B. Quarterman, head of the center's technical development laboratories, will study the problem of resistance of insects to insecticides with particular reference to malaria control. On his two months' assignment he will visit laboratories in western Europe, Africa, and the Middle East.

Lawrence B. Hall, chief of the Savannah laboratories' equipment development section, is sche-

Kenneth D. Quarterman



duled to participate in a session of the expert committee on insecticides of WHO in Geneva.



Lawrence B. Hall

#### French Plant for Calspray

California Spray-Chemical Co., Richmond, Calif., has completed negotiations with French authorities who have approved a \$1,500,000 investment by Calspray to build a captan plant in France, it was announced last month by Norbert B. Van Buren, manager of Calspray's eastern hemisphere operations and president of California Spray-Chemical Cie. Francaise. The French plant is expected to be on stream in the fall of 1956 making enough "Orthocide" brand captan products to take care of the French market as well as of the "soft currency" markets throughout the eastern hemisphere.

— ★ —

#### Reilly Sells Newark Plant

The sale by Reilly Tar & Chemical Corp., Indianapolis, of its Newark, N. J., plant to Pitt-Consol Chemical Co., a New Jersey subsidiary of Pittsburgh Consolidation Coal Co., was announced last month. Eastern customers will be served by Reilly's eastern division sales office in Tuckahoe, N. Y., with shipments from 14 other plants. Peter C. Reilly, vice-president, said when making the announcement. The firm is expanding operations at other plants while divesting itself of certain units no longer germane to its principal line of products, Mr. Reilly pointed out.

Joseph Pursglove, Jr., vice-president for development of the parent company has been named president of Pitt-Consol. The plant will continue to produce cresylic acids, phenolic resins, etc., while new facilities are being built and renovations made at an estimated cost of over three million dollars. Expected to be in production in mid-1956 the new plant will manufacture high purity cresole, and various grades of cresylic acids in addition to current products.

#### Conco 10 Years Old

Conco Chemical Co., Dallas sanitary supply firm, celebrates its 10th anniversary on Oct. 20. Although the firm actually began operating on Dec. 1, 1945, the firm name was registered on Oct. 20 of that year. The name was forwarded to the county clerk in Dallas while Lacy Crain, president, was serving in the Air Force in the Pacific. From three employees: Lacy and Mrs. Crain and Alex Wilson, the firm has grown to the point where

# NEVILLE

## Neville Chemicals

NEVILLE

### AROMATIC SOLVENTS

for Insecticides and Herbicides

#### NEVSOLV 200

Boiling Range...195°C (383°F) to 280°C (536°F)

Specific Gravity... .890 to .915 Color...Straw

#### NEVSOLV 30

Boiling Range...130°C (266°F) to 190°C (374°F)

Specific Gravity... .835 to .845 Color...Water White

These NEVSOLVS are active solvents for DDT, BHC, 2-4-D esters, and are especially clean with good odor.

Other boiling ranges are available for particular requirements.

S5-Q

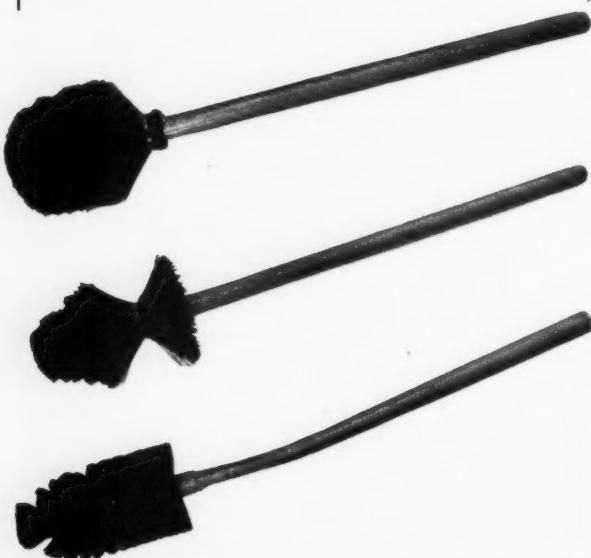
NEVILLE CHEMICAL CO.

PITTSBURGH 25, PA.

Plants • Neville Island, Pa.  
and Anaheim, Cal.

# CHEMICALS

**SEE SALES CLIMB  
with our quality line...**



## MORAN BRUSHES

A complete line of quality brushes for the trade

- Tough brushes give long life under constant use.
- Brush heads of superior materials for better cleaning with minimum effort—Black Shalon Plastic, Stiff Black Horsehair, Black DuPont Tynex Nylon and any Vegetable Fibre.
- Straight grained hardwood handles and blocks assure greater strength.
- Spiral winding—by experts—locks brush heads securely . . . No loose or dangling bristles.

### COMPLETE CUSTOMER SATISFACTION GUARANTEED

Write Dept. M10 for our 1955 catalog

Remember, Moran gives top service as well as top quality.

"Quality Brushes Since 1869"

**MORAN**  **BRUSH**

MANUFACTURING COMPANY, INC.  
30 Manilla Ave. P.O. Box 305 Hamden, Conn.

**NOW WE HAVE IT . . .**

**the NEW  
FACTORY METHOD**

for the maintenance of

## VINYL FLOORS

**used by**

manufacturers of Vinyl Flooring on new installations for the proper maintenance of their flooring.

# Win-tone

TRADE MARK

**Keeps VINYL FLOORS beautiful!**

*Cleans - Protects*

- WIN-TONE cleans quickly through emulsification. It develops quick wetting of soil accumulation, greater dirt dispersion and freer rinsing.
- WIN-TONE is safe to use, on all floors and anti-slip.
- WIN-TONE brings out the beauty of floor design and color, prolongs the actual life of Vinyl Floors.

*Write at once for  
Introductory Trial Offer*

### "THE WAX HOUSE"

WAX SPECIALISTS FOR OVER 30 YEARS

**WINDSOR**  
**WAX COMPANY, Inc.**

611 NEWARK STREET  
HOBOKEN, NEW JERSEY

Cortlandt 7-0868

Hoboken 3-1700

SOAP and CHEMICAL SPECIALTIES

it now has over 50 employees, including 36 salesmen in nine states.

Currently Conco sells more in one month than it did in the entire first year it was in business.

Mr. Crain employed and trained five salesmen in the first year of operation. Ten years later, four of the five original salesmen are still with the company and the fifth has gone into business for himself with Conco as his source of supply.

An attorney, Mr. Crain has found time to be active in the affairs of the National Sanitary Supply Association and currently is president of the organization. He is also active in church and Masonic affairs.

The firm tries to impart a family spirit to its operation and in its relations with its employees. The company brings together all members of the organization and their families four times a year for Conco Family Meetings, which are followed by a sales training school. A two-day sales training class will follow the family meeting on Oct. 20, to which Conco suppliers are invited.

#### Glass Rack Dolly Folder

An illustrated data sheet on its No. 196 dish and glass rack dolly was announced recently by Wilder Mfg. Co., Port Jervis, N. Y. Made of heavy angle iron frame with welded corners, the dolly has three inch diameter hard rubber wheels-ball bearing plate swivel casters. The unit comes in hot dipped galvanized rust resistant or hammertone gray finishes. It is made to accommodate 20 x 20 inch glass racks. Other sizes are also available.

#### McMahon Vulcan Exec. V.P.

George E. McMahon was recently elected to fill the newly created position of executive vice-president of Vulcan Containers, Inc., Bellwood, Ill., it was announced by Vern I. McCarthy, Sr., president. He was formerly vice-president in charge of all manufacturing departments and personnel, a post he has

#### At NSSA Regional Meeting in Houston



**Upper Photograph**

Board members attending southwestern regional meeting: top row—Bernard T. Kelly, assistant executive secretary N.S.S.A.; Burton Feinson, American Dispenser Co., New York, N. Y.; Ernest Cooper, Clarke Sanding Machine Co., Muskegon, Mich.; H. G. Kiddoo, Western Chemical Co., St. Louis, Mo.; Marvin Anderson, Louisiana Paper Co., Ltd., Shreveport, La.; John Stokes, Buildings Equipment & Supply Corp., Richmond, Va.; Gordon E. Kent, Kent Co., Rome, N. Y.; and Leo J. Kelly, executive Vice-President, N.S.S.A. Seated: Milton A. Zelinkoff, Zelinkoff Co., Wichita, Kans.; Philip Shore, Shore Metal Products Co., Los Angeles; Lacy E. Crain, Conco Chemical Co., Dallas; Jacob Kahn, Windsor Wax Co., Hoboken, N. J.; Fred Lachman, Paul Koss Supply Co., San Francisco, and George Bruesch, Frank Miller & Sons, Chicago.

**Lower Photograph**

Panel of demonstrators who answered questions from the floor, after having demonstrated practical techniques in caring for various types of floorings. From left to right, first row: Ken Thompson, representing Reilly Chemical Co., New Orleans, La.; Malcolm Carroll, representing Buckingham Wax Co., Long Island City, N. Y.; Jack Henderson, representing Candy and Co., Chicago; Bob De Rosier, representing T. F. Washburn Co., Chicago; Ralph FitzSimons, representing T. F. Washburn Co., Chicago, and Tom Echols, representing Buckingham Wax Co., Long Island, City, N. J.

Seated, second row: Jacob Kahn, representing Windsor Wax Co., Hoboken, N. J.; Marlin Cotten, representing S. C. Johnson & Son, Inc., Racine, Wis.; W. W. Cooper, representing S. C. Johnson & Son, Inc., Racine, Wis.; Don Budolfson, representing Multi-Clean Products, Inc., St. Paul, Minn.; Bob Wittrock, representing Candy & Company, Chicago.

Panelists missing from the lower picture: George Flanagan, representing Federal Varnish Division, Chicago; John Bryant, representing Federal Varnish Division, Chicago; and John Clark, representing Reilly Chemical Co., New Orleans, La.

held since 1942. He started with Vulcan 22 years ago in its original

Chicago plant in the city sales department.

## **MOVE WE MUST!**

*to give you greater service.*

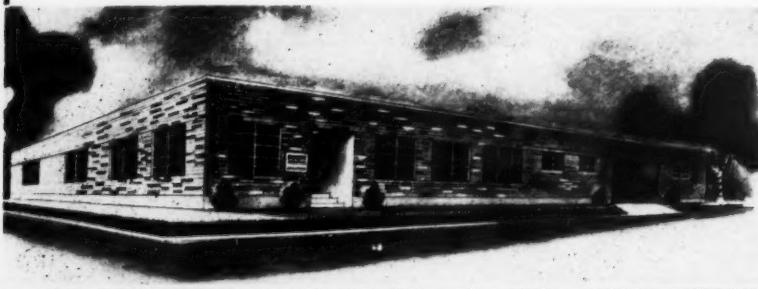
To meet the increased demand for its perfume bases and aromatic materials, Perry Bros. has expanded its facilities and moved to a new plant.

In this new building the most advanced laboratory, research, and manufacturing equipment has been installed with vast space for shipping and storage.



Manufacturers of:  
PERFUME BASES  
ESSENTIAL OILS  
AROMATIC PRODUCTS  
FLAVOR BASES

## **PERRY BROS., INC.**



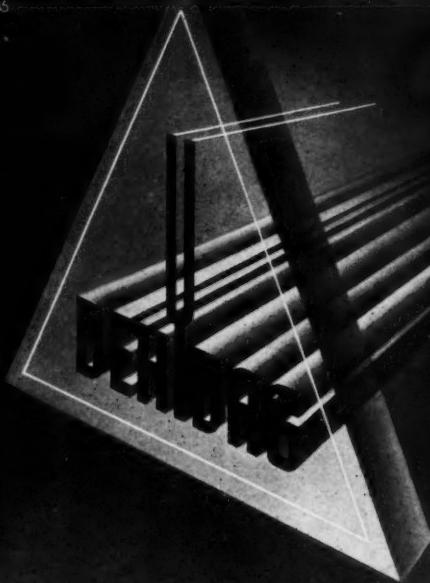
MODERN NEW PLANT:  
61-12 THIRTY SECOND AVE.  
WOODSIDE 77, L. I., N. Y.

NEW PHONE NUMBER:  
RAvenswood 1-3636-7-8

Consult with us on your  
perfume requirements

**PERRY PERFUMES PERFECT YOUR PRODUCTS!**

A 36 55



## **DEHYDAG SULFATES**

Concentrated sulfated  
Fatty Alcohol in  
powder, paste or  
liquid form.

Neutral, highly active  
washing and foaming  
agent for shampoos,  
tooth pastes, mouth washes  
and bath essences.

## **DEUTSCHE HYDRIERWERKE GMBH. GERMANY**

Sole distributors in USA and Canada:

FALLEK PRODUCTS CO., INC.  
165 Broadway, New York 6, N.Y.

CANERPA LIMITED · Suite 223 Drummond Building  
1117 St. Catherine Street West · MONTREAL

## New CSC Nitroparaffins Plant on Stream

THE availability, for the first time in sizeable commercial quantities, of a new family of chemicals as raw materials for a number of chemical specialties became a reality in September. This was announced recently by J. Albert Woods, president of Commercial Solvents Corp., New York, when the world's first full scale nitroparaffins production facilities went into operation at his company's plant in Sterlington, La. A few days before, on Sept. 7, the first railroad tank car shipment of nitromethane flowing from the new facilities was made.

A major use of one nitroparaffins derivative, "AMP" (2-amino-2-methyl-1-propanol), will be as emulsifying agents in self-polishing floor waxes. Extensive tests by a number of manufacturers, according to W. Ward Jackson, CSC vice-president, have shown that floor wax emulsions prepared from "AMP" have good water resistance, good removability, excellent leveling, high gloss and stability to freeze. Its low cost, Mr. Jackson stated, adds materially to economy in production of these waxes. Other

production of the nitroparaffins will be used in the manufacture of pesticides, in surface coatings and in cosmetics and pharmaceuticals, among other applications.

"There is no apparent limit to the application of the nitroparaffins in industry and agriculture," Mr. Woods said. "They constitute an entirely new field of organic chemistry. The importance of the nitroparaffins is their amazing versatility when used as raw materials in the production of other chemicals."

Full scale production of the four basic nitroparaffins, nitromethane, nitroethane, 1-nitropropane, and 2-nitropropane, is now under way. The company is also operating facilities for the conversion of these basic nitroparaffins to derivatives at its Terre Haute, Ind., and Peoria, Ill., plants.

According to Mr. Jackson, Commercial Solvents spent almost 21 years in bringing the nitroparaffins to full scale production. The patented processes on which the project is based were developed in the company's research laboratories from initial research carried out by

the Purdue Research Foundation. Commercial Solvents is currently considering further expansion of present production, as well as developing additional nitroparaffins from among the 2,000 known possibilities.

### Chloramine-T in Bulk

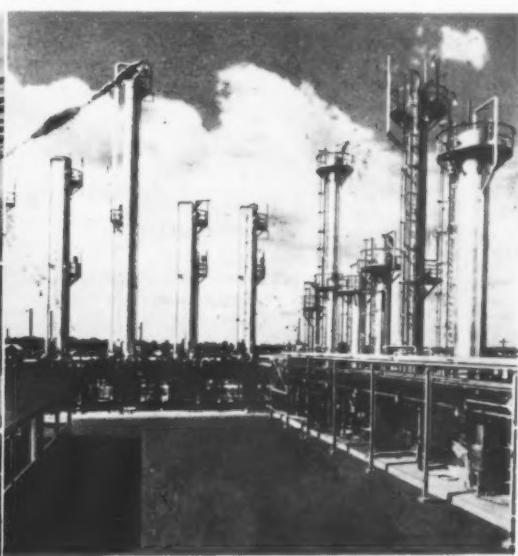
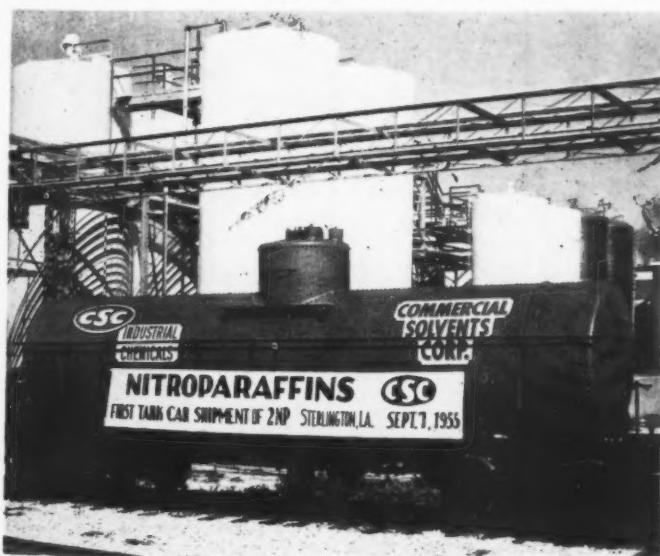
Chloramine-T,N,F., is currently available from Gallard-Schlesinger Chemical Manufacturing Co., Long Island City, N.Y., it was announced recently. The material comes in 100 pound units, delivered from warehouses in central locations in all parts of the country. The material is shipped here from Europe.

### New Insecticide Odor Mask

A new reodorant for insecticides called "Malascent" was introduced last month by Aromatic Products, Inc., New York. One gallon of insecticide requires an addition of one quarter ounce of "Malascent" to cover and neutralize any unpleasant odors. This means, according to Michael Lemmermeyer, Aromatic Products president, that one gallon of insecticide can be reodorized for 4½ cents. Trial samples are available to interested companies.

Site for Commercial Solvents Corp.'s nitroparaffin plant (left) in Sterlington, La., was chosen primarily because of the availability of raw materials produced in conjunction with CSC's other petrochemical units at Sterlington. Towers to left

are product separators, those at right are for recovery of products and unreacted raw materials. The first tank car shipment of nitromethane made Sept. 1 is shown at left.



**YOUR CUSTOMERS  
REALIZE**

**Floor Care  
is mostly labor cost.**

# **QUALITY MOPS**

**Reduce  
Man-Hours!**

**Cuts Clean-up  
Time in Half**

**BIG X  
Sweep Mop**

Here's a mop that snatches up dust on contact. And it's amazingly durable...lasts and lasts. Can be removed from block for washing. Handles can't break due to exclusive new, rugged "Gibraltar" brace...BIG X comes in various widths up to 5 feet! ...It's our leader!

**VICTORY  
Wet Mop**

Your maintenance men will cheer you for ordering VICTORY mops. Soak up dirt and water at high speed. A heavy-duty, long-wearing mop—the choice of thousands of buyers.



A high-speed performer. Reduces cost of applying wax, seals, varnish. More professional floor finishers use HOLZ-EMS than any other applicator.

*Jobbers* When you sell AMERICAN STANDARD mops you build sound, repeat business. Ask for catalog and prices.

"TOPS IN MOPS"  
**AMERICAN STANDARD MFG. COMPANY**  
Incorporated 1908

CHARLES E. KREBS and WALTER C. KREBS  
2515 SOUTH GREEN STREET • CHICAGO 8, ILLINOIS



# **THE EYE BUYS**

**LEEBEN COLORS WILL INCREASE  
YOUR SALES OF**

Soaps  
Detergents  
Shampoos  
Bath Salts  
Toilet Preparations  
Deodorizing Blocks

Floor Products  
Polishes  
Sweeping Compounds  
and other  
Chemical Specialties

*Oil, water and alcohol soluble colors.*

*Samples Matched*

*We also carry a complete line  
of certified colors.*

## **LEEBEN CHEMICAL CO., INC. INTERSTATE COLOR CO.**

140 W. Broadway      New York 13, N. Y.  
WOrth 2-4355  
A DIVISION

# **COLUMBIA-SOUTHERN<sup>®</sup> paradichlorobenzene**



*high purity  
free-flowing  
easy forming  
good crystal clarity  
seven mesh sizes*

Shipped in 25, 50, 100 and 200 pound  
fibre containers (200 pound Leverpak)

**COLUMBIA-SOUTHERN  
CHEMICAL CORPORATION**  
SUBSIDIARY OF PITTSBURGH PLATE GLASS COMPANY  
ONE GATEWAY CENTER • PITTSBURGH 22 - PENNSYLVANIA

DISTRICT OFFICES: Boston, Charlotte, Chicago, Cincinnati,  
Cleveland, Dallas, Houston, Minneapolis, New Orleans, New York,  
Philadelphia, Pittsburgh, St. Louis, San Francisco

## Dedicates New Plant

R. M. Hollingshead Corp., Camden, N. J., recently dedicated its new million dollar manufacturing and distribution center at Sunnyvale, Calif. The unit was formally placed into operation when Governor Goodwin J. Knight of California, cut a ribbon made of "Cocoon," Hollingshead's sprayable vinyl plastic.

R. M. Hollingshead, Jr., chairman of the board, gave a short history of the company from the time it was founded by his father, R. M. Hollingshead, Sr., in 1888. General manager in charge of all West Coast operations, R. M. Hollingshead III, said the Sunnyvale plant will serve the 10-state area of Washington, Oregon, California, Nevada, Idaho, Utah, Arizona, Montana, Wyoming, and Colorado.

The new plant is a "push-button" operation, utilizing the principles of automation, and has an annual capacity for production of 1,500,000 gallons of maintenance



On hand for the dedication of the new Hollingshead plant in Sunnyvale, Calif., were: California Governor, Goodwin J. Knight, second from left; Mrs. Knight, center; R. M. Hollingshead, Jr., extreme right; Mrs. Hollingshead and R. M. Hollingshead, III, general manager of West Coast operations.

chemicals. An area of 60,000 square feet is covered by the new factory which has mixing facilities including 14 storage tanks with a total capacity of 39,300 gallons. A rail-

road spur along the west side of the plant connects with the main line of the Southern Pacific and can handle up to 15 freight or tank cars at one time.

## "BUILT-IN" RUGGEDNESS

One way to keep maintenance costs down is to use equipment that lasts longer! And the one way to make sure that such equipment does last longer is to use Atlantic Vanco. Every piece of Atlantic Vanco Mopping Equipment and Janitor's Metalware is *right* from the start . . . right in design . . . rugged in construction . . . and efficient to work with. And don't forget that Atlantic Metalware is "HOT DIP" GALVANIZED BY HAND to provide *extra* protection against wear and corrosion.

Write Today for literature and prices.

**ATLANTIC HAS ONE POLICY . . . TO MAKE ONLY THE BEST!**

**THE ATLANTIC STAMPING COMPANY**

ROCHESTER 2, N. Y.



**MOP WRINGER AND  
PAIL COMBINATIONS  
Round, Oval  
and Square**



**MOPPING UNITS  
Small, Medium  
and Large**



**ROUND AND OVAL  
MOPPING PAILS**

*Atlantic Offers the  
most complete Line  
of Mopping Equipment  
and Janitor's Metalware.*



## NO-TRAX MATS

HEAVY-DUTY NO-TRAX ALL RUBBER LINK MATS afford safe, sure footing under all conditions. Sure grip treads hug the floor, HOLD the mat in place. Tapered edges prevent tripping. Famous "Squee-Gee" action catches all mud, gravel, dirt, snow, water, etc. . . . cleans shoes as they pass over the mat in normal walking. Rust-resistant spring steel wires and rubber construction throughout make NO-TRAX MATS indestructible by weather . . . Ideal for outside as well as vestibule . . .

*Write Today for Prices and Details*

**SUPERIOR RUBBER MFG. CO.**

501 West 82nd Street

Chicago 20, Ill.

## WAXES

**CARNAUBA**

yellows - fatty  
refined - chalky  
north country

**BEESWAX**

african  
asiatic

**JAPAN WAX**

genuine  
superior brands

**CANDELILLA**

prime grade  
and refined

**SYNTHETIC**

high m. p.  
yellow

## SHELLAC

**ORANGE & BLEACHED**  
WAX FREE • BUTTON

**W.M. DIEHL & Co.**

334 W. 42nd St., New York 18, N. Y.

Cable: DIEHLWILL

BRYant 9-5211

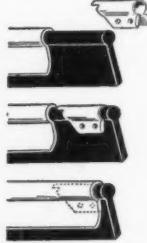
*for a MASTER job*

**ETTORE**

**STECONE\***  
**MASTER SQUEEGEE**

MODEL **52** TOPS THEM ALL

"The Best Squeegee for any job, anywhere"



- Properly curved channel adds spring to the rubber — increases cleaning efficiency.
- Patented Clips in channel hold rubber firmly—insure longer wear—better performance. Rubber can be replaced in seconds.

SOLD BY  
SANITARY SUPPLY DEALERS



*for further  
information, write:*

**STECONE  
PRODUCTS COMPANY**  
826 - 71ST AVENUE • OAKLAND 21,

\* Neither Ettore Stecone nor his Company, Stecone Products Co., has any connection with Morse-Starrett Products Company.

CALIFORNIA

ADVERTISING CLOSING DATE  
for SOAP AND CHEMICAL SPECIALTIES is the

10<sup>th</sup> of preceding month

YOUR COOPERATION IN FURNISHING COPY INSTRUCTIONS  
ON TIME WILL HELP US MEET OUR PUBLICATION DATE.

# PROFESSIONAL Directory

## Carl N. Andersen, Ph.D.

Consulting Chemist

**Cosmetics, Soaps and Synthetic Detergents**

**52 Vanderbilt Ave.  
New York 17, N. Y.  
Room 2008**

**Phone: MU 9-0789**

Laboratory: Briarcliff Manor, New York  
Phone: Briarcliff 6-1550

## HUDSON LABORATORIES, INC.

Consulting

**Chemists and Bacteriologists**

**117 W. 13th St., New York 11, N. Y.**

Bacteriology

Toxicology

Chemistry

Dermatology

Testing Analysis Formulation Research

Disinfectants Antiseptics Sanitizers

Antiseptic and Deodorant Soaps

Advice on labeling and advertising claims

Roger F. Lapham, M.D.

Director

Rebecca L. Shapiro, M.S.

Chief Bacteriologist

## J. W. McCutcheon

**475 Fifth Avenue New York 17  
MU. 3-3421**

**Consulting Chemist**

Specializing in

**oils, fats, soaps  
synthetic detergents  
and glycerine**

Laboratory: 367 E. 143 St., New York 54  
ME. 5-4298

## ALVIN J. COX, Ph. D.

Chemical Engineer and Chemist

(Formerly Director of Science, Government of the Phillipine Islands; Retired Chief, Bureau of Chemistry, State of California Department of Agriculture.)

**ADVISOR ON AGRICULTURAL  
CHEMICAL PROBLEMS AND  
INVESTIGATIONS**

Consultant in reference to spray injury and damage claims including imports of fruits and nuts, formulas, labeling, advertising and compliance with law.

**1118 EMERSON STREET  
PALO ALTO, CALIFORNIA**

## LANCASTER, ALLWINE & ROMMEL

Registered Patent Attorneys

Suite 402, 815 - 15th St. N. W.  
Washington, D. C.

\*

Practice before U. S. Patent Office. Validity and Infringement Investigations and Opinions.

Booklet and form "Evidence of Conception" forwarded upon request.

## MOLNAR LABORATORIES

Consulting, Testing and Research

Specializing in  
Organic Synthesis

Product Development and Control  
Disinfectant Testing and Formulation  
Toxicity and Dermatitis Tests  
Clinical Studies

Member A. C. C. & C. E.  
**211 E. 19th St., New York 3, N. Y.**

## CUSTOM PACKAGING and Formulation

**Douglas**

CHEMICAL COMPANY  
420 E 16TH AVE • NO. KANSAS CITY 18, MO.



We serve industry through science in the biological field

- ROUTINE
- DEVELOPMENT
- RESEARCH

Scientific Problems? Consult us!  
**HILL TOP RESEARCH  
INSTITUTE, INC.**  
925 Wm. H. Taft Rd., Cincinnati, O.

## W. W. Lewers, Ph.D.

Consulting Chemist and  
Chemical Engineer

**207 Norman Ave., Brooklyn 22,  
N. Y.  
Evergreen 9-1722**

Specializing in  
Waxes, polishes, emulsions,  
paints, pigment dispersion.

## JAMES P. O'DONNELL

Engineers

Complete Process Plants  
Automatic Instrument Control

Surveys — Estimates  
Construction Supervision  
Initial Operation

**39 Broadway New York 6**

## MANUFACTURERS AID CO.

Contract Packagers

315 34th Street

UNION CITY N. J.

Reduce your packaging cost by letting us package for you. We also warehouse and ship.

Large or small runs.

## SELLING

Is Our  
Business

**BILL PLOWFIELD  
• • and Associates, Inc.**

The Schaff Building  
PHILADELPHIA 2, Pa.  
Locust 7-1872

For PLANT MODERNIZATION and EXPANSION  
you can rely on **NEWMAN'S**

**75**

*years of experience*  
in new, used and reconditioned  
**SOAP** and **CHEMICAL EQUIPMENT**

All items in stock, ready for shipment

Consult us on all your soap machinery needs

We are at your service

**WE BUY AND SELL SINGLE ITEMS OR COMPLETE PLANTS  
—THIS MONTH'S SPECIAL OFFERINGS—**

1 — Buehler 3 Roll Soap Mill, late model.

R. A. Jones Automatic Soap Presses, type E, ET, K and Pin Die — reconditioned.

Proctor & Schwartz Automatic Soap Chip Dryers.

Newman Soap Crutchers, 1000, 3000 and 5000 lb.

**Additional Precision Rebuilt Machinery  
with New Equipment Efficiency**

- H. Single Screw Soap Plodders, 4, 6, 8, and 10"
- H-A Automatic Soap Slabbers
- Empire State and Crosby Foot Soap Presses
- Toilet Soap Mills — 2, 3, 4, 5 roll
- Blanchard 10A and 14 Soap Powder Mills
- Mikro Pulverizer
- Filling and Weighing Machines for flakes, powder, etc.
- Steel Soap Frames, 1,000 to 1200 lb. cap.
- Automatic Soap Wrapping Machines
- Sperry and Shriver Filter Presses, various sizes
- Amalgamators
- H. Automatic Soap Cutting Tables
- Procter & Schwartz Soap Chip Dryers complete
- Dopp Steam Jacketed Soap Crutchers
- Powder Mixers, Day, Robinson, Broughton, etc., all sizes
- Soap Dies for Automatic and Foot Presses
- Pumps, various types and sizes
- Crystallizing Rolls

Call, Write or Wire for Additional Information

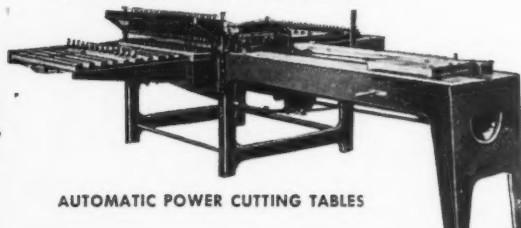
**NEWMAN**  
TALLOW and  
SOAP MACHINERY  
Company

1051-59 W. 35th Street  
CHICAGO 9, ILLINOIS

Yards 7-3665

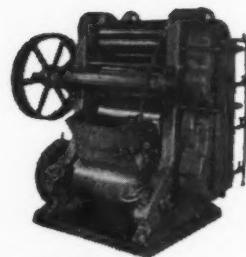


Single screw soap plodders with 6, 8, 10 or 12 inch screws. All completely rebuilt and unconditionally guaranteed

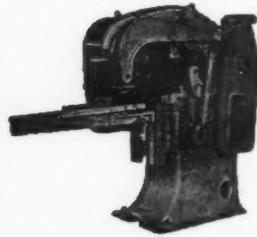


AUTOMATIC POWER CUTTING TABLES

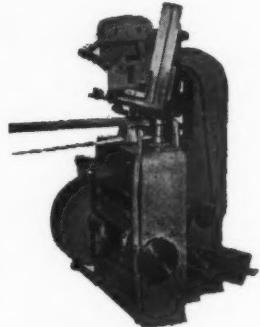
Newman's Steel Steam Jacketed SOAP CRUTCHERS.  
BRAND NEW. Sizes 1,000 to 10,000 lbs.



TOILET SOAP MILLS  
3 Roll — 4 Roll — 5 Roll  
STEEL and Granite Rolls



JONES Horizontal Type AUTOMATIC combination laundry and toilet soap presses. Single or Double Kick.



Jones Vertical type AUTOMATIC Toilet Soap Presses.



## DONALD PRICE, Ph.D. Consulting Chemist

Specializing in

**Surface-active agents,  
detergents,  
cleaning materials,  
oils and fats  
research management**

123 E. 92nd St. New York 28, N. Y.  
AT 9-9086

## STILLWELL AND GLADING, INC. ANALYTICAL & CONSULTING CHEMISTS

Over 80 years

### SPECIALIZING IN ANALYSIS of

Rotenone Bearing Materials, Pyrethrum Flowers and Extracts, Soaps, Detergents, Insecticides, Waxes and Chemicals.

130 Cedar Street  
New York 6, N. Y.



## CLASSIFIED

### —Classified Advertising Rates—

Situations Wanted — 5¢ per word  
\$1.00 minimum.  
Other Classified — 10¢ per word  
\$2.00 minimum.

**Bold Face Ruled Box** — \$7.50 per column inch,—2 inch min.

Address Box numbers care of *Soap & Chemical Specialties*, 254 West 31st St., New York 1, N. Y.

## Positions Open

**Salesman:** to sell miniature guest soap to janitor, institutional and hotel jobbing trade. "Wrapped and unwrapped." Low prices. State territories, & trade items you now sell. Address Box 521, c/o *Soap*.

**Technical Serviceman:** Aerosols. Nationally-known chemical manufacturer requires technical serviceman, age 24 to 40, to aid cosmetic and pharmaceutical manufacturers in the formulation of aerosol products. Prefer graduate chemist with experience in cosmetic or pharmaceutical formulation work. Headquarters, Metropolitan New York area. Some traveling. Salary commensurate with experience and abilities. Send complete resume in confidence, Box SCS 1767, 221 West 41 St., New York.

## SEIL, PUTT & RUSBY, Inc.

Earl B. Putt, President and Director

Stephen S. Voris, Ph.D., Chief Chemist

### Analytical and Consulting Chemists

Specialists in the Analysis of Organic Insecticides, Pyrethrum Flowers, Derris Root, Barbasco, or Cube Root—Their Concentrates and Finished Preparations.

DRUGS—ESSENTIAL OILS—SOAP  
16 East 34th St., New York 16, N. Y.  
MU 3-6368

## DONALD F. STARR, Ph.D.

— ★ —  
Consultant specializing in:

**Aerosols  
Insecticides  
Rodenticides  
Fish Control**

— ★ —  
256 N. Mountain Avenue  
Upper Montclair, N. J.  
Telephone: MO 3-2598

## FRIAR M. THOMPSON, Jr.

128½ College Avenue  
Athens, Georgia

Consultant specializing in insecticides, rodenticides, fungicides, weed controllers for industry, household and farm.

Product formulation, testing, labeling.

## E. G. THOMSEN, Ph. D.

•  
Consultant on plant lay-out equipment design and product formulation for manufacturers of insecticides, disinfectants, floor waxes, soaps and allied products.

•  
The Cedars  
Hendersonville, N. C.

## Positions Open

**Salesman:** Wanted by Central New York manufacturer. Complete line of soaps, cleansers, floor waxes, insecticides, disinfectants, etc. Whole or part time. Liberal commissions. W. D. Carpenter Co., 111 Irving Ave., Syracuse, N. Y.

**Chemists Wanted:** With experience in the formulation of degreasers, compounds of all types; rust and scale removers; boiler compounds and other specialties for direct sales to industry. Resume and salary requirements in first letter. All replies confidential. Our staff knows of this ad. Address Box 522, c/o *Soap*.

**Chemist Wanted:** By leading essential oil house. Qualified in perfume compounding. Please give details of education, experience and salary requirements. State whether willing to relocate. Address Box 523, c/o *Soap*.

## Situations Wanted

**Superintendent:** For soap plant capable of complete handling of small plant or section of large plant. 25 years experience. Excellent record. Produce all types of soaps including milled toilet. Will go anywhere. At present employed mid-west. For further details write to Box 524, c/o *Soap*.

## Situations Wanted

**Soapmaker:** With more than 20 years experience on all kinds of laundry and toilet soaps, glycerine recovery. Experienced soap chemist. Seeks new connection. Address Box 528, c/o *Soap*.

**Chemical Salesman:** Degree. Experienced in selling chemical raw materials to soap, cosmetic, sanitary, and miscellaneous industries in Chicago area, Illinois, and St. Louis, Mo. Desires connection in Chicago or Northeastern states. Address Box 526, c/o *Soap*.

**Industrial Traffic Manager:** ICC practitioner, over twenty years experience, all phases up to and including administering department. Married. College and Academy graduate. Record Available. Address Box 530, c/o *Soap*.

## Industrial Sales Mgr.

Aggressive man with proven successful sales management record in sanitary chemicals and maintenance equipment. Seeks position of responsibility and opportunity in sales management.

Excellent background and references. 36 years old. College degree in chemistry. Prefer limited travel. Present salary \$13,500. Address Box 534 c/o **SOAP & CHEMICAL SPECIALTIES**.

**LOOKING FOR IDEAS  
TO STIMULATE SALES?**

**BOBRICK SALES AIDS  
ARE YOURS FOR THE ASKING!**

# Bobrick

SOAP DISPENSERS  
Since 1906

1214 NOSTRAND AVE., BROOKLYN 25, N. Y.  
or P. O. Box 12368, Los Angeles 39, Calif.  
Other distribution points — Atlanta, Chicago, Houston and Canada

**ALWAYS  
ON  
GUARD**

*and ready to  
serve your  
special needs*

- FLOOR WAXES
- SOAPS
- CLEANERS
- POLISHES

*and Allied Products.  
Tell us Your Needs.*

# Buckingham

WAX CO.

*Manufacturers of Chemical Maintenance  
Products for Over 30 Years*

LONG ISLAND CITY 1  
NEW YORK

Warehouse: Dallas, Texas

CUSTOM REFINED OR REGULAR RUN

# PENN- DRAKE®

• WHITE OILS

• PETROLATUMS

• SULFONATES

• SOLVENTS



PENNSYLVANIA REFINING COMPANY

BUTLER, PENNSYLVANIA

Branches: Cleveland, Ohio and Edgewater, N. J.

Representatives in all Principal Cities

PRIVATE  
FORMULA  
WORK

Let us

manufacture  
it for you!

Those products which you are not equipped to manufacture yourself . . . those odd items which do not fit into your plant . . . mosquito repellent, flea powder, salves, ointments, tube filling, powder filling, etc. . . . we buy materials, containers, pack, store, and ship your specialties . . . most modern methods and equipment . . . strictly confidential . . . and our charges are low . . . consult us without obligation.

R. Gesell, Incorporated

200 W. HOUSTON STREET

NEW YORK

## Situations Wanted

**Chemical Specialties Chemist:** Ph.D. 18 years experience in development of wide range of chemical specialty products including waxes, disinfectants, aerosols, pesticides/household and agricult. types, cleaners and other sanitary chemicals, desires responsible position. Address Box 527, c/o *Soap*.

**Chemist:** Widely experienced in waxes, polishes, emulsions, floor coatings, automotive chemicals, household products, — desires connection with progressive firm. Metropolitan New York area preferred. Experienced in production, development and research. Address Box 529, c/o *Soap*.

**Organic Chemist:** Ph.D., immigrant, 53, experienced in organic synthesis, formulation and analysis of detergent compositions and cleaners for household and industry, diverse chemical specialties, some textile auxiliaries, seeks contact with progressive chemical manufacturer for extending and improving his line of products for the benefit of both. Knowledge of German and French. Publications. Married. Successful research worker. Inventor of some good formulae. Engagements on salary plus royalty basis only. New Jersey or metropolitan New York area preferred. Address Box 525, c/o *Soap*.

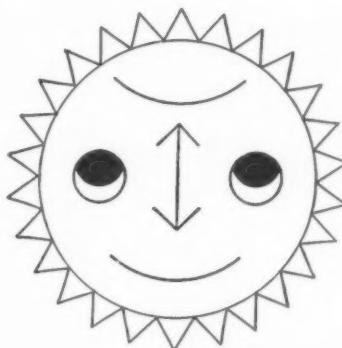
## Miscellaneous

**Plant Wanted** — Will rent part of plant suitable for chemical specialties manufacture. Location Metropolitan New York. Steam jacketed equipment required. Send particulars to Box No. 531, care of *Soap & Chemical Specialties*.

## For Sale

**For Sale:** By I. E. Newman, 5602 Blackstone Ave., Chicago, Ill. Crutchers 1000-8000 lbs.; Wrapper type S; Plodder 10"; auto. Table 2 way; Jones auto. Presses; 100-8000 lb. Powder mixers; Boilers; All kinds soap and chemical equip.

twice as many could be saved.  
cerdeath is a needless death...  
tell us, is that every third can  
The tragic fact, our doctors

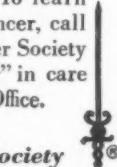


### LET'S LOOK AT THE BRIGHTER SIDE

Many thousands of Americans are cured of cancer every year. More and more people are going to their doctors *in time*...To learn how to head off cancer, call the American Cancer Society or write to "Cancer" in care of your local Post Office.

American Cancer Society

Interested in Chemical Specialties, see page 156 for more complete details.



Tremendous Selection  
Modern Machinery

**UNION**  
Rebuilt  
Machinery  
Established 1912

#### Rebuilt and Guaranteed

Gemco 66" diam. Double Cone Blender, 56 cu. ft.  
Mikro 4TH, 3TH, 2TH, 1SH and Bantam Pulverizers.  
Pneumatic Scale Cartoning Line Consisting of Bottom Sealer,  
Top Sealer and Wax Liners. Both 30 and 60 per minute.  
Pfaudler King, Horix, Elgin Stainless Steel Rotary Fillers.  
Capem 4-Head and Resina LC Automatic, Elgin Cappers.  
Burt 611 AUB adj., Wraparound Labelers, (up to 1 gal. cap.)

Tell Us All Your Machinery Requirements  
Complete Details and Quotations Available On Request

## AT BARGAIN PRICES

Baker Perkins, Readco, Day, Hottman Mixers,  $\frac{1}{4}$  to 2000 gals.  
J. H. Day 650 gal. Steam Jacketed Jumbo Mixer.  
R. A. Jones E and Houchin Semi and Automatic Soap Presses.  
J. H. Day 15 to 10,000 lb. Dry Powder Mixers.  
Robinson, Tyler Hum-mer, Great Western, Rotex, Day Sifters.  
National and Lehman 3 and 5 Roll Mills; steel-granite-porcelain.  
New Era Soap Amalgamators.  
Stokes and Smith G1, G2, G6, HG88 Auger Powder Filters.  
Pony M, MX, Ermold, World Semi and Automatic Labelers.  
Standard Knapp 429 Carton Sealer; Jones, Coco Carton Sealers.  
Hudson Sharp Campbell Automatic Cellophane Wrapper.  
Oliver 799-J Wrapper with Cardboard Feed and Labeling Attachment.  
Package Machinery FA, FA2, FA4; Scandia Wrappers.

**UNION STANDARD EQUIPMENT CO.**  
318-322 LAFAYETTE STREET NEW YORK, N.Y.



# Aerosol Bulk Products

- SHAMPOOS

- SHAVE CREAMS

- SUN TAN PREPS.

- ALCOHOLIC SPECIALTIES

- COLOGNES

- HAND LOTIONS

- HAIR LACQUERS

*Extensive development laboratories at your service.  
Inquiries Solicited • Samples on Request*

## OLD EMPIRE, INC.

Manufacturing Chemists

Mt. Prospect & Verona Aves., Newark, N. J.  
HUmbolet 4-2121

WISCONSIN  
ALUMNI  
RESEARCH  
FOUNDATION

## LABORATORY SERVICES

Peet-Grady and C.S.M.A. aerosol tests  
Biological evaluation of insecticides  
Screening of compounds for insecticidal,  
fungicidal, and bactericidal properties  
Bioassay of insecticide residues on crops  
Chemical determination of insecticides  
Phenol coefficient determinations  
Mineral determinations including fluorine  
and other trace elements  
Pharmacology including warm-blooded  
toxicity studies  
Warfarin assays — physico-chemical and  
biological  
Other biological, chemical,  
and microbiological services

### PROJECT RESEARCH AND CONSULTATION

Write for Price Schedule

WISCONSIN ALUMNI  
RESEARCH FOUNDATION

P.O. Box 2059-Z • Madison 1, Wisconsin

# WAX

carnauba, ouricury, candelilla  
all grades crude and refined,  
beeswax, african and south american  
crude, yellow refined, white bleached,  
japan wax, microcrystalline, montan

### MERCANTILE WAX DIVISION OF MERCANTILE METAL & ORE CORP.

595 madison avenue, new york 22  
murray hill 8-8212



"Make-Do" Mixing  
Can Cost You Money!

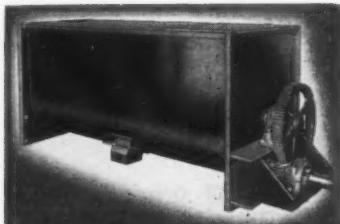
THE MARION MIXER with its EXCLUSIVE Mixing and Blending action is turning out TOP QUALITY Mixed Products for Chemical Manufacturers everywhere. It's simple, efficient design is rugged enough to handle any volume of mixing large or small . . . and at the same time, it constantly SAFE-GUARDS your formula mixes from loss of uniformity.

- SOAPS and DETERGENTS
- PHARMACEUTICALS
- DRY POWDERS
- SWEEPING COMPOUNDS
- INSECTICIDES
- CHEMICALS

Complete information and list of users on request:

RAPIDS MACHINERY COMPANY, • 889 - 11th St., Marion, Iowa

MIXES ALL TYPES OF WET OR DRY MATERIALS  
Available in 300 lb. to 4000 lb. Batch Weight Sizes.



THE  
*Marion*  
MIXER

SOAP and CHEMICAL SPECIALTIES

**NEOPRENE**  
*Junction*  
*Action*  
**DRIES AS IT CLEANS**  
**AS IT SCRUBS!**

The Haviland Neoprene Scrubber actually *pulls* water right out of cracks and holes. Cleans and dries even the roughest floors in minutes—saves costly man hours between scrubbing and waxing. Oil resistant, long wearing, it's always in demand—by garages, plants, schools, institutions.

WRITE FOR OUR CATALOG

**WARREN HAVILAND  
CORPORATION**

1810 CHOUTEAU AVE. • ST. LOUIS 3, MO.

**KEEP POSTED!**

Come—and bring your key men—to the



**25<sup>th</sup> EXPOSITION OF  
CHEMICAL INDUSTRIES**

COMMERCIAL MUSEUM AND CONVENTION HALL

Philadelphia Dec. 5-9

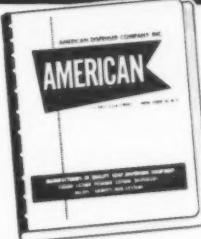
Developments in the chemical process industries are rapid. What was new yesterday may be obsolete today. But you can keep up with new techniques, ideas, processes, methods, materials and equipment in an easy, time-saving way... by attending this great exposition with its over 500 fact-filled exhibits! *Just one idea you pick up here may profit you over and over again!*

Don't miss this great opportunity! Save time by writing now for free advance registration and forms for hotel accommodations to

MANAGEMENT: INTERNATIONAL EXPOSITION COMPANY  
480 Lexington Avenue, New York 17, N. Y.

© 1955

**BUILD MORE PROFITABLE SALES WITH  
AMERICAN SOAP DISPENSERS**  
*"there's no substitute for quality"*



American Soap Dispensing Equipment has a habit of selling itself. Its quality is so obvious, its streamlined design so striking that you are assured of easier sales, more satisfied customers.

GET ALL THE FACTS ON THESE  
PROFIT-MAKERS  
WRITE FOR CATALOG TODAY

**No. 1 LATHURN**

- Streamlined for easy cleaning.
- Wall Plate provides simple installation.
- Theftproof — no exposed screws.
- Quickly filled from TOP.
- Leakproof—no messy drippings.



**AMERICAN DISPENSER COMPANY, Inc.**  
 manufacturers of quality soap dispensing equipment  
 115 EAST 23rd ST., NEW YORK 10, N.Y.

**CERTIFIED COLORS**

A broad range of shades for Shampoos, Soaps, Drugs, Medicines, Creams, Rinses, and Cosmetics.

**PYLA-SYNTH COLORS**

Fast colors for the New Synthetic Detergents in Red, Blue, Green, Amber and Yellow.

- We offer a full line of fast colors for all soap and soap products.
- Send for free samples.  
Send for price lists.

**PYRAM PRODUCTS CO., INC.**

*Manufacturing Chemists, Importers,  
Exporters*

799 Greenwich St.

New York City 14

Cable Address "Pylamco"

# CHLORAMIN-T, N. F.

A STABLE SOURCE OF SUPPLY AT STABLE PRICES  
FROM WAREHOUSE STOCKS IN PRINCIPAL INDUSTRIAL CENTERS

GALLARD-SCHLESINGER CHEMICAL MFG. CORP.

37-11 TWENTY-NINTH STREET, LONG ISLAND CITY 1, N. Y.

## SHANCO RESINS

for  
*Emulsion Waxes*

Blend in Steam-jacketed

or

Direct Fired Kettles

Alkali Soluble Resins

for

Leveling Agents



Shanco Plastics & Chemicals, Inc.

Tonawanda, N. Y.  
BE 0383

Philadelphia, Pa.  
RI 6-3875

Brooklyn, N. Y.  
EV 9-3480

Agents in all Principal Cities



## Forgotten Something?

Have you forgotten to renew your subscription to SOAP AND CHEMICAL SPECIALTIES? Have you suddenly discovered you are missing back copies? Don't let YOUR subscription expire. Renew now!

**MAC NAIR-DORLAND COMPANY**

254 W. 31st Street New York 1, N. Y.

PREFERRED FOR  
**POLISHES**  
**Tamms**

Tamms products are widely used in the polish trade, preferred for quality results. Write today for prices and samples.

### TAMMS SILICA

Soft Amorphous Type

Grades to meet various abrasive requirements . . . for all kinds of metal polishes.

### TAMMS TRIPOLI

Rose and Cream Colors

Once-ground, double-ground and air-float . . . ideal grades for buffing and polishing. Also rubbing compounds.

### TAMMS MULTI-CEL

Diatomaceous Earth

Top grade, ground extremely fine . . . a milder abrasive than silica. Best for silver polish.

### TAMMS BENTONITE

(Suspension Medium)

A very finely ground colloidal clay . . . wholly soluble. Absorbs five times its weight in water.

TAMMS INDUSTRIES, INC., DEPT. RM-3, 228 N. LA SALLE ST., CHICAGO 1, ILL.

## Schoenfeld Rejoins Emulsol

Herbert Schoenfeld has left Velsicol Chemical Corp., Chicago, and rejoined Emulsol Chemical Corp., Chicago, as manager of technical sales service, it was announced in September.

At the same time Emulsol introduced a new and revised product list, describing the firm's line of surface-active agents.

## Dura Names Two

Two sales representatives have been added by Dura Commodities Corp., New York, it was announced late last month by K. J. Wasserman, vice-president. Southern States Chemical Co., Atlanta, Ga., will cover the states of South Carolina, Georgia, Florida, Alabama, and eastern Tennessee. Thompson-Hayward Chemical Co., St. Louis, Mo., has been named to represent Dura in the St. Louis area, eastern Missouri, and southern Illinois.

## Fly Repellents

(From Page 189)

repellent to houseflies while R-11 and R-440 are much more repellent to stableflies. Combinations of R-326 with either R-11 or R-440 show strong synergistic action. The pyrethrum synergist, N-octyl bicycloheptene dicarboximide (MGK-264), increases the effectiveness of these repellents.

## Literature Cited

1. Goodhue, Lyle D. and Carolyn Tissol, 1952. Determining the Repellent Action of Chemicals to the American Cockroach. *Jour. Econ. Ent.* 45 (1) 133.
2. Goodhue, Lyle D. and Roy E. Stansbury, 1953. Some New Fly Repellents by Laboratory Screening Tests. *Jour. Econ. Ent.*, 46, 982-985.
3. Bruce, W. N., 1953. Laboratory and Field Evaluation of Factors Affecting the Performance of Fly Repellents. Univ. of Michigan Microfilm (Ann Arbor) Pub. No. 5946. Dissertation Abstracts 13, 1309-10.
4. Moore, Joseph B., 1954. Field tests on fly sprays containing R-11 and R-326. Private communication.
5. Howell, D. E., 1952. Results of field tests with insect repellents. Presented at the 64th annual meeting of Am. Assoc. Econ. Ent.

6. Campau, E. J., Baker, G. J., and Morrison, F. D., 1953. Rearing Stable Fly for Laboratory tests, *Jour. Econ. Ent.*, 46 (3) 524.
7. Kilgore, Lowell B., 1939. Insect Repellents. *Soap and Sanitary Chemicals*, 15, (6) 103, 105, 107, 109, 111, 123.
8. Peterson, A., 1953. A Manual of Entomological Techniques, U. of Ohio, Columbus, p. 62-65.

## Lien Chemical Co.

(From Page 168)

all of the trucks of Lien's fleet.

Lien Chemical Co. operates branches in Milwaukee, Rockford, Ill., South Bend, Ind., and two years ago opened a branch in Miami, Fla.

At 48, Carl Lien heads an organization which has grown in 25 years from one having a single employee, who is still with the firm, incidentally, to one which now boasts 250.

## Packaging Show Space

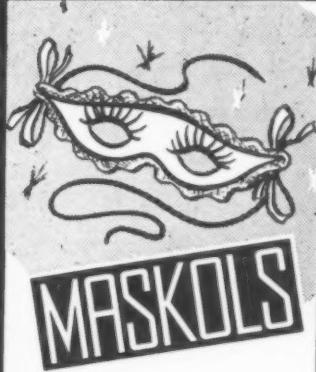
(From Page 109)

were 380 exhibitors, and 30,000 persons attended the show.

Accompanying the exhibit will be the association's National Packaging Conference, Apr. 9-11, which will also be held in the convention hall. At this annual forum of the packaging industry, individual speakers and panel groups will review problems in industrial and consumer packaging and suggest solutions.

Also during the coming year, A. M. A. plans a comprehensive education program for packaging management by means of smaller meetings and seminars on specialized subjects. In July nearly 100 packaging executives attended a three-day clinic on the control of over and slack fill on automatic packaging filling machinery. Fall and spring meetings will take up the economics of packaging machinery, packaging as a management function, establishment of packaging specifications and statistical quality control for incoming packaging supplies, and the auditing of machine performance to raise efficiency.

MANUFACTURING CHEMISTS SINCE 1904 . . . MANUFACTURING CHEMISTS SINCE 1904 . . .



**made for your  
special odor  
problems**

Our long experience  
in the fields  
of:

- ★ Petroleum
- ★ Paints and Varnishes
- ★ Insecticides
- ★ Latex
- ★ Textiles and Industrial Odors

- enables us to  
**"FIT OUR MASKS  
TO YOUR PROBLEM"**



**Write Maskols —**

**VAN  
DYK**  
& COMPANY, INC.  
5 WILLIAM STREET  
BELLEVILLE 9, N. J.

# THE BOOKSHELF

**Books for ready reference in your plant, home, office or laboratory**

\* \* \* \*

## 1. HANDBOOK OF PEST CONTROL

(1068 pages)

by ARNOLD MALLIS

## 2. SOAPS AND DETERGENTS

(512 pages)

by E. G. THOMSEN

and JOHN W. MCCUTCHEON

## 3. MODERN CHEMICAL SPECIALTIES

(514 pages)

by MILTON LESSER

## 4. SANITARY CHEMICALS

(576 pages)

by LEONARD SCHWARCZ

## 5. SYNTHETIC DETERGENTS

(445 pages)

by JOHN W. MCCUTCHEON

\* \* \* \*

— Send Check with Order —

MAC NAIR-DORLAND CO.

254 West 31st St., New York 1, N. Y.

Enclosed find check for \$..... for which send me the books checked on this order:

Company .....

Address .....

City ..... State .....

By .....

- Handbook of Pest Control**    **Sanitary Chemicals**  
\$9.25 in U.S.A.\*   \$9.75 elsewhere   \$8.00 in U.S.A.\*   \$8.50 elsewhere
- Synthetic Detergents**    **Soaps and Detergents**  
\$7.10 in U.S.A.\*   \$7.60 elsewhere   \$9.00 in U.S.A.\*   \$9.50 elsewhere
- Modern Chemical Specialties**  
\$7.25 in U.S.A.\*   \$7.75 elsewhere

It is understood that if these books are not what I want, I may return them within 10 days in good condition for a full refund of the purchase price.

(\*Add 3% sales tax if in New York City.)

### Coming Meetings

American Public Health Association, 83rd annual meeting, Municipal Auditorium, Kansas City, Mo., Nov. 14-18.

Association of American Soap & Glycerine Producers, Inc., 29th annual meeting, Waldorf-Astoria Hotel, New York, Jan. 25-27, 1956.

Chemical Specialties Manufacturers Association, 42nd annual meeting, Roosevelt Hotel, New York, Dec. 5-7.

Entomological Society of America, annual meeting, Netherlands Plaza Hotel, Cincinnati, Nov. 29-Dec. 2.

Exposition of Chemical Industries, Commercial Museum and Convention Hall, Philadelphia, Pa., Dec. 5-9.

Grocery Manufacturers of America, annual meeting, Hotel Waldorf-Astoria, New York, Nov. 16-18.

National Chemical Exposition, Public Auditorium, Cleveland, Nov. 27-30.

National Packaging Exposition of the American Management Association, Convention Hall, Atlantic City, N. J., Apr. 9-12, 1956.

National Pest Control Association, 22nd annual convention, Denver, Colo., Cosmopolitan Hotel, headquarters hotel, Oct. 17-20.

National Sanitary Supply Assn., 33rd annual convention and trade show, Conrad Hilton Hotel, Chicago, Apr. 29, 30 and May 1, 2, 1956; western regional meeting, Sheraton Palace Hotel, San Francisco, Nov. 3-4.

Packaging Institute, 17th annual forum, Statler Hotel, New York, Oct. 31-Nov. 2.

Plant Maintenance Show, Convention Hall, Philadelphia, Jan. 23-26, 1956.

Salesmen's Association of the American Chemical Industry, annual sales clinic, Roosevelt Hotel, New York, Oct. 24.

Society of Cosmetic Chemists, 10th anniversary meeting, Commodore Hotel, New York, Dec. 15.

Supermarket Institute, mid-year meeting, Palm Springs, Calif., Jan. 8-12, 1956, annual convention, Cleveland, May 6-9, 1956.

Synthetic Organic Chemical Manufacturers Association, monthly luncheon meeting, Commodore Hotel, New York, Nov. 9; annual dinner, Dec. 1.

# Index to ADVERTISERS

Aerosol Awards Committee, C.S.M.A. ....	98	Gillespie-Rogers-Pyatt Co. ....	186	Plowfield & Associates, Bill ....	213
American Bag & Paper Corp. ....	97	Givaudan-Delawanna, Inc. ....	Betw'n 172 & 173, 198	Polak's Frutal Works, Inc. ....	69
American Cyanamid Co. ....	71	Gross & Co., A. ....	12	Potdevin Machine Co. ....	82
American Dispenser Co. ....	219	Harchem Div., Wallace & Tiernan, Inc. ....	200	Precision Valve Corp. ....	102
American Standard Mfg. Co. ....	210	Haviland Corp., Warren ....	219	Prentiss Drug & Chemical Co. ....	155
Andersen, Dr. Carl N. ....	213	Hercules Powder Co. ....	34, 170, 171	Price, Dr. Donald ....	213
Antara Chemical Div., General Aniline & Film Corp. ....	31	Hill Top Research Institute, Inc. ....	213	Procter & Gamble Co. ....	124
Aquaneess Corp. ....	119	Hooker Electrochemical Co. ....	114	Pylam Products Co. ....	219
Aromatic Products, Inc. ....	158	Houchin Machinery Co. ....	72	Rapids Machinery Co. ....	218
Atlantic Refining Co. ....	122	Hudson Laboratories, Inc. ....	213	Rhodia, Inc. ....	183
Atlantic Stamping Co., The ....	211	Hunt Mfg. Co. ....	82	Risdon Mfg. Co., The ....	Facing 173
Baird & McGuire, Inc. ....	162	International Minerals & Chemical Corp. ....	90	Rohm & Haas Co. ....	13, 132
Barco Oil Co. ....	147	Johns-Manville ....	28	Roure-Dupont, Inc. ....	Between 114 & 115
Barr & Co., G. ....	96	Lancaster, Allwine & Rommel ....	213	Seil, Putt & Rusby, Inc. ....	215
Becco Chemical Division ....	20	Leeben Chemical Co., Inc., Interstate Color Co., A. Division ....	210	Shanco Plastics & Chemicals, Inc. ....	220
Belgian Nitrogen & Chemical Products Co. ....	110	Lehmann Co., J. M. ....	76	Shell Chemical Corp. ....	70
Blockson Chemical Co. ....	29	Lewers, Dr. W. W. ....	213	Shulton, Inc. ....	27
Bobrick Dispensers, Inc. ....	216	Magnus, Mabee & Reynard, Inc. ....	188	Simoniz Co. ....	150
Buckingham Wax Co. ....	216	Mantrose Corp. ....	190	Sindar Corp. ....	128
Bush & Co., W. J. ....	202	Manufacturers Aid Co. ....	213	Snell, Inc., Foster D. ....	200
California Spray-Chemical Corp. ....	138	Marchon Products, Ltd. ....	26	Societe Belge de l'Azote et des Produits Chimiques du Marly ....	110
Candy & Co. ....	4	Mathieson Chemical Div., Olin Mathieson Chemical Corp. ....	8, 9	Solvay Process Div., Allied Chemical & Dye Corp. ....	2nd Cover, 19
Carbide & Carbon Chemicals Co., Union Carbide & Carbon Corp. ....	142, Facing 172	McCutcheon, J. W. ....	213	Solvents & Chemicals Group, The ....	Facing 99
Chemical Industries Exposition ....	219	McLaughlin Gormley King Co. ....	196	Sonneborn Sons, Inc., L. ....	177
Chemical Service of Baltimore, Inc. ....	15	Meccaniche Moderne ....	74	Starr, Dr. Donald F. ....	215
Columbia-Southern Chemical Corp. ....	210	Mercantile Wax Division ....	218	Steccone Products Co. ....	212
Commercial Solvents Corp. ....	154	Miranol Chemical Co., The ....	21	Stepan Chemical Co., The ....	40
Continental Can Co. ....	108	Mixing Equipment Co. ....	82	Sterwin Chemicals Inc. ....	180
Continental Filling Corp. ....	99	Molnar Laboratories ....	213	Stillwell & Gladding, Inc. ....	215
Continental Oil Co. ....	10, 11	Monsanto Chemical Co. ....	32	Superior Rubber Mfg. Co. ....	212
Cowles Chemical Co. ....	22	Moore Brothers Co. ....	151	Tamms Industries, Inc. ....	220
Cox, Dr. Alvin J. ....	213	Moran Brush Mfg. Co. ....	206	Thompson, Jr., Friar M. ....	215
Crown Cork & Seal Co., Can Div. ....	100	National Aniline Division ....	36	Thomssen, Dr. E. G. ....	215
Deutsche Hydrierwerke G.m.b.H. ....	208	National Lead Co. ....	144	Tombarel Products Corp. ....	78
Diehl & Co., Wm. ....	212	Neville Chemical Co. ....	205	Turner & Co., Joseph ....	80
Dill Mfg. Co. ....	106	Newman Tallow & Soap Mach'y Co. ....	214	Ultra Chemical Works, Inc. ....	68
Dodge & Olcott, Inc. ....	148	Niagara Alkali Co. ....	86	Ungerer & Co. ....	3rd Cover
Douglas Chemical Co. ....	213	Nitrogen Div., Allied Chemical & Dye Corp. ....	149	Union Carbide & Carbon Corp., Carbide & Carbon Chemicals Co. ....	142, Facing 172
Dow Chemical Co. ....	14, 38	Nopco Chemical Co. ....	24	Union Standard Equipment Co. ....	217
Dragoco Holzminden ....	30	Nordia Essential Oil & Chemical Co. ....	6	U. S. Bottlers Machinery Co. ....	78
Dreyer, Inc., P. R. ....	192	O'Donnell, James P. ....	213	van Ameringen-Haebler, Inc. ....	16, 139
du Pont de Nemours & Co., E. I. ....	23, 126, 137, 160, 161, 182, 194	Oil Equipment Laboratories, Inc. ....	110	Van Dyk & Co., Inc. ....	221
Dura Commodities Corp. ....	204	Old Empire, Inc. ....	218	Varley & Sons, Inc., James ....	173
Durez Plastics Division ....	172	Olin Mathieson Chemical Corp., Industrial Chemicals Div. ....	8, 9	Velsicol Chemical Corp. ....	143
Emery Industries, Inc. ....	33	Onyx Oil & Chemical Co. ....	153	Verona Chemical Co. ....	118
Emulsol Chemical Corp. ....	112	Oronite Chemical Co. ....	18	Vernes—The Dow Chemical Co. ....	84
Ertel Engineering Corp. ....	80	Owens-Illinois Glass Co. ....	94, 95	Victor Chemical Works ....	88
Essential Chemicals Co. ....	17	Ox Fibre Brush Co. ....	202	Warwick Wax Co. ....	145
Fairfield Chemical Division ....	4th Cover	Peck's Products Co. ....	184	Washburn Co., T. F. ....	176
Federal Varnish Division ....	157	Penick & Co., S. B. ....	159	Welch, Holme & Clark Co. ....	140
Fritzsche Brothers, Inc. ....	178	Pennsylvania Industrial Chem. Corp. ....	133	Westvaco Chlor-Alkali Div. ....	25
Fuld Brothers, Inc. ....	3	Pennsylvania Refining Co. ....	216	Westvaco Mineral Products Div. ....	116
Gair Co., Robert ....	Facing 98	Perry Brothers, Inc. ....	208	Windsor Wax Co. ....	206
Gallard-Schlesinger Chem. Mfg. Co. ....	220	Petrolite Corp. ....	141	Wisconsin Alumni Research Foundation ....	218
General Chemical Div., Allied Chemical & Dye Corp. ....	134, 135	Philadelphia Quartz Co. ....	92	Wurster & Sanger, Inc. ....	80
Gesell, Inc., R. ....	216			Wyandotte Chemicals Corp. ....	120, 121

## Cale Ends

**G**EORGE Peter Peck, II, named for his grandfather and founder (now retired down in Florida) of Peck's Products Co., St. Louis, arrived on the scene September 16 at 10:00 P. M. at the Deaconess Hospital in St. Louis. He is the son of Mr. and Mrs. Lawrence W. Peck. (Lawrence Peck is otherwise known as Woody.) The new arrival was a trifle on the small size, 4 lbs. 8 ozs., but his chances of eventually becoming a full-size Peck are swell, according to his father.

\* \* \*

*Well, we see that Ol' Doc William Brady, the newspaper doctor who must be a jillion years old, if he's still alive, has gone overboard again recently in one of his columns recommending "plain white soap and plenty of water" for "disinfecting" utensils, bedding, equipment, etc. But some other doctor called Brady on his choice of white soap,—why not pink, green or brown? So, he admits that brown soap is just as good provided it is not "doctored with any powerful or mysterious chemical." And then he says that no authority in the field of hygiene, sanitation, medicine, surgery or obstetrics will take issue with him on soap as a "disinfectant." Oh, yeah!*

\* \* \*

As early as September 19, the president of one of our largest chemical companies has sent out a warning to all their suppliers about Christmas gifts. No Christmas gifts for our employees, and you know the reasons why, says the letter. It's a very friendly letter, but it does not mince words. ". . . members of our organization make their decisions on company affairs entirely on the basis of company interest without regard to personal consideration." It seems more and more of the large companies are becoming adamant on this matter of Christmas gifts for employees.

\* \* \*

Diamond Alkali late in September issued an invitation to all its friends and customers to drop in at the Manger Hotel in Cleveland for a drink and a snack "before and after the World Series games in Cleveland." Unfortunately, Cleveland was not an entrant in the World Series this year which necessitated a cancellation of the party which was done by sending the regular invitations out with the words, "Cancelled . . . by the Yankees . . . damn it!" imprinted across the face. The Diamond people were that sure the Cleveland Indians were going to repeat in winning the pennant, but, alas, they didn't.

\* \* \*

One million rats; That's how many they've bred at the Supplee Division of Foster D. Snell, Inc. since 1923. To mark the birth of the mil-

lionth rat, the Snell folks have published a booklet in lighter vein entitled "Rats for Research." It seems that all the Snell rats are albinos from the Wistar strain which are slightly on the aristocratic side as rats go and all bred strictly in the interests of science. If you want a chuckle out of the new Snell booklet, write 'em at 29 West 15th St., N. Y. 11.

\* \* \*

P & G sales for the fiscal year 1954-55 could have been a billion dollars had the powers-that-be wanted them to reach this figure, says a grapevine report. But, it seems that everybody held back a little so the billion dollar figure was not reached. This was principally

so the company could get away to a flying start for the new 1955-56 business year. Well, that's the way we heard it!

\* \* \*

European soap makers visiting this country in September were given a royal welcome and an unusual treat by one of their hosts, Jack Hirsch, head of Formula Floor Products, Newark, N. J. sanitary supply firm. He sent each of the ten soapers, who came from all parts of Europe from Iceland to Portugal, out with Formula salesmen making actual calls. Following a strenuous day, the group reassembled at Formula's headquarters for the regular Monday evening sales meeting, no holds barred. This was followed by a buffet supper, with drinks cooled in mopping tanks (unused, of course). Commented one of the visiting soapers: "Your selling methods differ somewhat from ours." The understatement of the trip!

### Jolt due!



**S**ALES MEN without the backing of company advertising can be due for some awful jolts in calling on new people. It can be tough. But, for example, if in the field of soaps and detergents, insecticides, disinfectants, aerosols, floor products, automotive chemicals and allied specialties you want your men to avoid the jolts, your company and products better known in advance, and your men to sell more, sell better, then we suggest regular advertising in

## SOAP and Chemical Specialties

254 W. 31st Street

New York 1, N. Y.

o a  
usi-  
we

ting  
even  
reat  
sch,  
ew-  
sent  
rom  
to  
nen  
cen-  
at  
ular  
olds  
ffet  
ing  
ted  
ell-  
rs."

# UNGERER

Importer  
Manufacturer

\* FOR 60 YEARS

*a fine tradition  
in the creation  
of basic materials  
for PERFUMES and  
PERFUME SPECIALTIES*

**Essential Oils**

**Aromatic Chemicals**

**Terpeneless Oils**

**Oleoresins**

**True Fruit and Imitation Flavors**



# Ungerer & Co.

161 Avenue of the Americas, New York 13, N. Y.  
plant and laboratories  
Totowa, N. J.

CHICAGO • BOSTON • PHILADELPHIA • ST. LOUIS • LOS ANGELES • ATLANTA

**Six good reasons—**

## **WHY PIPERONYL BUTOXIDE Is THE PERFECT SYNERGIST**

**I**t's the real secret of the remarkable *versatility* of the Pyrenone\* concentrates.

Exacting laboratory research, as well as practical applications, over a period of 10 years prove conclusively that *piperonyl butoxide* —

1. Steps up the killing power of pyrethrins at least 10 times.
2. Is virtually non-toxic to man or warm-blooded animals.
3. Prevents the deterioration of pyrethrins by screening out ultra-violet light.
4. Acts as an acid acceptor to check the decomposition and polymerization of pyrethrins.
5. Is readily soluble in all common organic solvents — and, in fact, is a solvent in its own right.
6. Contains no impurities and is stable to the action of other chemicals and exposure conditions.

*Piperonyl butoxide* is an ether which combines with pyrethrins to form an almost endless variety of basic Pyrenone formulas. They are available as wettable powders, emulsifiable compounds, oil-free and oil-based concentrates.

### **WRITE FOR DATA**

For complete technical data . . . typical formulations for specific end-product uses . . . and sample label statements, write the nearest office of Fairfield Chemical Division, Food Machinery and Chemical Corporation.

\*Reg. U. S. Pat. Off., F. M. C.

## **Pyrenone**



**Sales Headquarters  
420 Lexington Ave., New York 17, N.Y.  
Branches in Principal Cities**

*In Canada: Natural Products Corporation, Toronto and Montreal*

